

JOE WEIDER'S

FEBRUARY
2016

BRITISH EDITION

MUSCLE & FITNESS

THE ROCK!
BONUS PULL-OUT
POSTER INSIDE



DWAYNE JOHNSON

MAN OF THE CENTURY

22 PAGES OF HIS:

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- ▶ TOTAL ARM ROUTINE
- ▶ KEYS TO SUCCESS!

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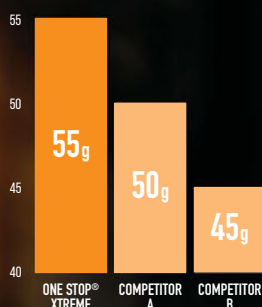
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THE FACTS

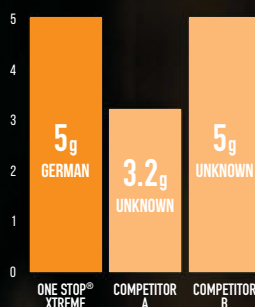
55g PROTEIN | **10.3g** BCAA'S | **3g** L-LEUCINE | **1.8g** BETA ALANINE | **73g** LOW GI CARBOHYDRATE



PROTEIN CONTENT



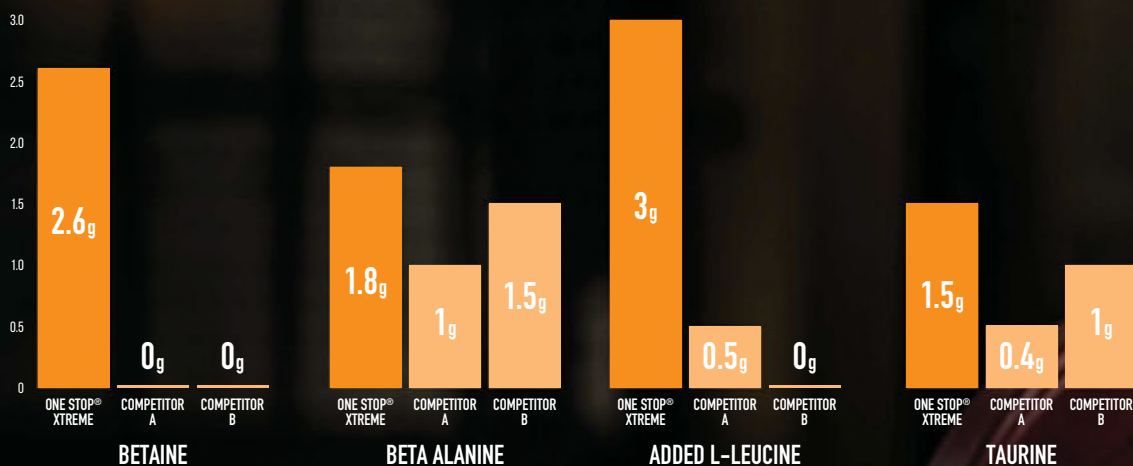
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MADE IN INFORMED-SPORT SITE?		
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YES	NO	NO
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FEATURES

8 GUEST EDITOR'S LETTER

Dwayne Johnson oversaw many aspects of this issue. Here, he sounds off on what *M&F* means to him.

10 MAN OF THE CENTURY

Why this month's cover guy is the man to carry the torch of fitness into the future.

14 NEW YEAR MASS

Belfast training expert Phil Graham shows how to build your own muscle-building plan.

86 SCHOOL OF THE ROCK

He has a story to tell, and with each chapter of that story, a valuable lesson to share.

102 75 YEARS, 75 TIPS

For 75 years, we've helped put *M&F* readers ahead of the curve. Here's the best advice we've ever shared.

116 WINTER WONDERS

Yes, you can still eat with the seasons in winter—and these recipes make it easy and delicious to do so.

124 TIME UNDER TENSION TRAINING

You don't always have to go super heavy to pack on mass. Here's how to extend the length of your sets and reps for maximum results.

SECTIONS

28 EXPERT

Rob Riches on how to adapt your workouts to get ultra-lean; Darren Sadler on strongman training, and British bikini pro Michelle Brannan on making your waist smaller.

48 EDGE

The terminal cancer patient who won't stop training; Thor from *Kung Fury*; WWE's Cesaro; knockout celebrity trainer Astrid Swan.

62 TRAIN

Frank Zane's secrets to a small waist; how to train around knee injuries; pain-free shoulder training.

76 EAT

Making the most of peppers; the many health benefits of pistachios; muscle up your soup.

138 SUPPS

Why vitamin D supps are so important in winter; the versatility of MHP's Probiotic-SR; a closer look at MuscleTech's Mission1 bars.

ON THE COVER

Dwayne Johnson
Photography by Per Bernal



IN EVERY ISSUE

6 ARNOLD'S LETTER

9 FROM THE EDITOR

46 HOT BOD

144 THE LAST WORD



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A Good Read

Arnold has never been prouder to be a part of his favourite magazine.

PERHAPS MORE than any other vehicle, this magazine helped me become a major force in the fitness industry, which, in turn, paved the way for me to realise so many other dreams.

My relationship with *M&F* (then called *Muscle Builder/Power*) began when I was a kid and I saw Reg Park on the cover. In those days, the only way you could see a physique like that was on a movie

screen or a magazine cover, and only the magazine would tell you how it was built. It was a seminal moment in my life, both inspiring me to see beyond the horizons of my humble Austrian farm village and giving me my first concrete plan for how I would escape it: build up my body, become a champion, get into movies, and use my fame to change the world. To think that it's still having the same effect on readers—including my friend Dwayne "The Rock" Johnson, whom you can read about this month in almost 20 exclusive pages—so many years later, and that this year is in fact its 75th anniversary, blows my mind. I've never felt more honoured and humbled to be a part of it.

And none of it would have been possible without *M&F*'s founder, my late, great friend, Joe Weider. Back in the 1950s, Joe published several bold predictions about bodybuilding that seemed ludicrous to most people at the time—that it would be recognized as a crucial form of exercise and be practised all over the world. Now, three-quarters of a century later, all of what Joe said has proven not only true, but obvious. More than any fitness guru who's come and gone, Joe completely understood bodybuilding's value and the impact it could have on health, culture, and overall happiness. His cause has become my crusade, and I'm proud of my position as executive editor at the magazine that still represents it best.

Yours in Iron,

Arnold Schwarzenegger

COMING FULL CIRCLE

Arnold grew up on this magazine, then became a huge part of it. This month's cover subject shares a similar story.



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Full Circle

During the lowest point of my life, this magazine was my rock.

BY DWAYNE JOHNSON, GUEST EDITOR

I'VE OFTEN TOLD THE STORY

of how I was evicted from my home when I was 14 years old. How my family was paying rent week to week and couldn't keep up with the bills. How we cried, how we were out on the street, how I fell in with a bad crowd—a theft ring, to be precise—and how I wound up in jail because of it. My mom, dad, and I eventually found our feet. I found college football, WWE, and finally, show business. The rest is history.

What many people don't know is that through all those really crappy times, *Muscle & Fitness* was one of the few things I could turn to for inspiration. It didn't just teach me how to lift and eat to build a better body. In many ways, it taught me about manhood itself. It taught me about hard work and where it can get you. The men who appeared so frequently on the cover—Arnold Schwarzenegger, Franco Columbu, Sylvester Stallone—were men of action. They built their bodies, and their lives, on the bedrock of hard work. Conversely, it seemed to me that other magazines chose to extol raw talent, celebrity, panache, and style as man's crowning achievements.

I'm not putting the other magazines down. Wherever you find inspiration, use it. But to me, *Muscle & Fitness* was the one magazine for which charisma alone couldn't buy you a cover. You had to be built—and to do that, you had to be willing to bust your ass for years on end. In those pages—and through the example of the men the magazine featured—I started to see a way through my troubles. I wasn't in control of any of the circumstances that surrounded me, but I was in control of my body. *M&F* taught me how to take control and in many ways planted the seeds

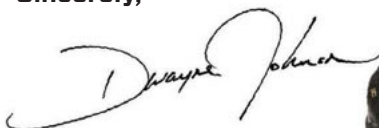
for a lot of my future successes. To come full circle and be a part of this magazine and help pay that positive message forward over the past decade-plus is an absolute honour.

Of all the covers I've done for *M&F*, this, my seventh overall, is the greatest milestone. If you know anything about me, you know how I keep the number seven within sight at virtually all times. Seven Bucks Productions is the name of my company. And seven bucks, of course, was how much I had in my pocket when I washed out of the Canadian Football League. After the eviction, this was the next lowest point of my life.

See, my troubles didn't end when I figured out how to lift. Troubles never really end for any of us—they are woven into the human experience. But with this magazine as my first guide, I learned that as long as you have hard work and a positive attitude to fall back on, it doesn't matter how many times you get knocked down. You'll always know how to get back up.

Thank you to editor in chief Shawn Perine and the whole *M&F* family for having me on the cover for a seventh time. Let's keep paying it forward.

Sincerely,



Dwayne Johnson



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DWAYNE JOHNSON MAN OF THE CENTURY

BY SHAWN PERINE /// PHOTOGRAPHS BY PER BERNAL ///
DIGITAL IMAGING BY JEFF OSBOURNE





SEVENTY-FIVE YEARS AGO, OUR FOUNDER STARTED A MOVEMENT. HERE, IN THE THIRD MILLENNIUM, DWAYNE JOHNSON IS THE LIVING, BREATHING, NAME-TAKING, BUTT-KICKING EMBODIMENT OF THAT MOVEMENT.

When Joe Weider founded *Your Physique* magazine in late 1940, it was with a big dream and a healthy dose of gumption. The dream was to establish himself as a leader in the relatively nascent fitness movement, by educating and inspiring others to follow his lead into a life marked by vigour, self-confidence, and a burly physique. As for gumption, it's hard to argue that 20-year-old Joe's bold foray into the world of fitness publishing, with zero experience and just \$7 to his name, couldn't reasonably serve as an alternate definition of the word.

Here, at the start of 2016, we at *Muscle & Fitness* look back on the past 75 years with reverence and more than a little pride. That 17-year-old kid from Montreal's Jewish ghetto, for all his unfettered ambition, probably couldn't have dreamed of the heights he, or his hand-typed, hand-illustrated, mimeographed newsletter, would reach. Over the years between then and now, *Your Physique* would beget *Muscle Builder* and *Muscle Power* magazines, which would merge to become *Muscle Builder/Power*. Then, in 1980, his signature publication would undergo one

more title change, to *Muscle & Fitness*. Regardless of its title, this publication would profoundly change millions of lives over its storied history.

One such life was that of Arnold Schwarzenegger, who was so inspired by images of legendary bodybuilder Reg Park in it that he decided to follow his own dream of becoming a professional bodybuilder. As if by fate, Arnold's early success led him to be "discovered" by Joe himself, at the 1968 Mr. Universe contest in Miami, where a mentorship, friendship, and partnership of a lifetime would be formed.

In Arnold, Joe found the perfect face (and physique) to represent bodybuilding. In Joe, Arnold found not only support but also a launching pad for his stratospheric ambitions. Together and



separately, Joe and Arnold turned bodybuilding (which is to say, the building of the body, as opposed to the sport of bodybuilding) from a counterculture activity into a worldwide phenomenon.

Suddenly, everyone wanted to get “pumped up,” and, by the end of the ’80s, Arnold became not just the world’s greatest bodybuilder and biggest film star but a change agent of historical proportions. By the turn of the millennium the two men had kick-started a revolution and built it into an empire upon which the sun never set, and *M&F* was its Magna Carta.

Around 2000, however, the action-hero heyday of the ’80s was well in the rear-view, and the serious fitness movement was flagging and in need of a new face. At the same time, another young man with a dream and gumption to spare emerged from his pro wrestling roots as a nascent film star.

With his breakout performance in 2001’s *The Mummy Returns*, Dwayne “The Rock” Johnson was poised to carry the torch lit by Arnold nearly 20 years earlier, as a muscular action star with a razor wit to match his razor cuts.

Over the ensuing decade and a half, Dwayne did in fact fulfill his promise, deftly transitioning from WWE Superstar to Hollywood star to cultural icon. Bulling his way past movie execs who, early in his acting career, tried to get him to slim down for more “mainstream appeal,” he ultimately turned his voluminous muscles into an asset, just as Arnold had done decades before.

Throughout the first decade of the 21st century, Dwayne’s star rose and his fan base grew, as he deftly straddled the worlds of wrestling and acting. In 2011, he took to social media, and his infectious personality shone right through the glow of millions of smartphones and tablets to further secure him a level of global recognition few others on planet Earth can claim.

All the while, Dwayne preaches the gospel of iron and sweat and muscle and fitness, mostly through his often bombastic, always humorous Instagram posts, a good many of which are posted from the gym. In doing so he’s converted countless young men and women to the fitness lifestyle. He’s made it “cool” to lift weights once again. He’s reminded the world that muscles aren’t just for show, that they’re emblematic of strength and discipline and, most important to him, nose-to-the-grindstone hard work. And he purposefully connects the dots between the work he

puts in at the gym with his success today.

Today, Dwayne Johnson continues to lead the call—the one that Joe Weider started 75 years ago—to a stronger, fitter, healthier lifestyle for one and all. He is the heir apparent to Joe’s legacy, not because he asked to be, but because he’s chosen to live as an example of the same ideals that captured Joe’s imagination in 1940 and to spread those ideals the world over, as Joe once did. And in a serendipitous twist that can’t only be coincidence, Dwayne also started his path to success with just \$7, expanding it to a fortune through drive and ingenuity.

For all of this, and because he’s *#thepeopleschampion*, *Muscle & Fitness* is proud to name Dwayne Douglas Johnson our Man of the Century. May he continue to inspire until the next one. **M&F**



MARCH 2010



MAY 2013



MARCH 2014



SEPT. 2014

**FOR MORE ON OUR
MAN OF THE CENTURY,
TURN TO FEATURES.**



TALKING SHOP Dwayne Johnson chats with *M&F* editor in chief Shawn Perine during his cover shoot for this issue.



NEW YEAR



START 2016 BY **GAINING MUSCLE** WITH MY 12-WEEK PLAN // BY PHIL GRAHAM

NEW YEAR is a time for making resolutions and, for most serious trainers, they usually involve being fitter in the year ahead than the one behind.

My 12-week mass gain programme will help you pack on slabs of high quality mass and strength. Follow it and you could gain 4 lbs of muscle and be in your best shape ever by spring.

The programme teaches you how to calculate your own nutritional requirements and build a diet from the plate up.

The accompanying training programme has been structured to increase both aesthetic appearance and physical performance in five of the basic human movements: push, pull, hip hinge, squat, and weighted carry, which means you won't just look better; you will also carry extra strength into your everyday life.

I also teach you how to measure progress and respond to plateaus so you can continue to improve after the 12 weeks are over.

To start, you should have body fat of 14 per cent or less and 18 months training experience, as well as being healthy and willing to commit to five hours training a week.

Let's get to work!

MASS

PHOTOGRAPHY BY MARTIN IRVINE / EXERCISES PERFORMED BY PHIL GRAHAM

NUTRITION

Ensure the bulk of your nutrition comes from foods that support your end goal of good health and high quality mass gain. Feel free to accommodate 10-20 per cent of your daily calorie allowance for any favourite 'free foods', such as extra nut butter, chicken, or even chocolate. They won't do any harm in the grand scheme and this leaves 80-90 per cent of intake for high quality, nutrient dense food.

Track overall calories and macronutrients to ensure you're hitting key targets. Forget to track and you risk eating too much or too little. Innovations like MyFitnessPal can prove invaluable for tracking calories, hitting macro targets, and incorporating greater food choice.

CALCULATE YOUR NEEDS

The quantity of the food is what dictates whether you gain or lose weight. Eat too little and you won't grow; eat too much and you will be left with unsightly, unhealthy fat. To assess how much you need, you must first establish lean body mass then your basal metabolic rate, which is the amount of energy required to maintain normal bodily functions.

STEP 1 Calculate Lean Body Mass and Basal Metabolic Rate

A DEXA scan accurately calculates body fat. Alternatively, have a professional skinfold assessment, preferably done by somebody accredited by ISAK, which is the gold standard for skinfolds.

Lean Body Mass =

$\text{Weight in kg} \times (\text{Body Fat}/100)$

To give an example, a 90 kg man with 10 % body fat would have 81 kg of lean body weight and 9 kg of fat. From this, calculate BMR using the Katch-McArdle formula. Many BMR formulas are based solely on weight, which leads to inaccuracies but this one takes into account lean mass.

BMR =

$370 + (21.6 \times \text{Lean Body Mass in kg})$

So a 90 kg male with 81 kg of lean body mass would require 2,120 kcal a day.

STEP 2 Calculate Total Daily Energy Expenditure (TDEE)

Estimate your daily physical activity level, based on activity level and multiply by your BMR.

Sedentary = BMR x 1.2 (little or no exercise, desk job)

Lightly Active = BMR x 1.375 (light exercise/sports 1-3 days a week)

Moderately Active = BMR x 1.55

(moderate exercise/sports 3-5 days a week)

Very Active = BMR x 1.725 (hard

exercise/sports 6-7 days a week)

Extremely Active = BMR x 1.9 (hard

daily exercise/sports and physical job or twice day training)

We've already calculated that a 90 kg male with 10 % body fat has a BMR of 2,120 kJ. If he has a very active lifestyle, he'd multiply this figure by 1.725 to reach a TDEE of 3,657 kJ. This

is his energy balance – eat more and he gains weight; eat less and he loses weight.

STEP 3 Create A Surplus

To gain lean mass you need to increase energy intake beyond your basal energy needs. But gone are the days of mindless bulking, which causes unsightly fat that can reduce insulin sensitivity and increase inflammation – not ideal for muscle gain. We all gain muscle and fat at different rates so it's vital to work within your body's metabolic capacity. Select the body type that best suits you and adjust calorie intake accordingly:

Endomorph (stores fat easily):

+ 2 % of BMR kcal

Mesomorph (builds muscle easily):

+ 4 % of BMR kcal

Hard gainer (naturally lean and skinny):

+ 6 % of BMR kcal

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SINGLE ARM BARBELL ROW

Most people do this with both arms but using one arm at a time helps to really isolate the lats.

Let's assume our 90 kg very active male with 10 % body fat is a mesomorph. He would therefore have to increase his daily kcal intake of 3,657 by 4 % to 3,803 to create a surplus. On non-training days he should reduce this by 200 to 3,603.

For quality mass gain, always make small changes to energy intake over time. Never make big jumps.

MACRONUTRIENT GUIDELINES

There is no single best macronutrient intake. Everyone is unique and requires different amounts of each. But protein and fats are essential. Protein builds muscle, and fats are vital for hormone production. Regard carbs as calorie fillers.

STEP 1 Establish protein intake

Take lean body weight in kilos and multiply by 2.5 to calculate daily protein intake in grams. This amount should remain constant on training and non-training days. So our man with lean body mass of 81 kg should consume 202.5 g of protein daily. Multiply this amount by 4 to calculate how many kcal you will derive from protein, so the 81 kg male would get 810 kcal.

STEP 2 Establish fat intake

Non-training days require slightly higher fat as there is less need for carbohydrate. If your body responds well to fat go for the higher end of the ranges prescribed below and vice versa if it performs better on carbs.

Training days Multiply lean body weight in kg by 0.8 - 1.3g

Non-training Days Multiply lean body weight in kg by 1.4 - 1.8g

This tells you how many grams of fat you should consume each day so our man with 81 kg of lean body mass should consume between 65 g and 105 g on training days. To work out how many calories this equates to, multiply the figure by 9. So our male example would therefore consume between 583 - 948 kcal of fat on training days and 1021 - 1312 kcal of fat on non-training days.

STEP 3 Establish carb intake

Carbs fill the energy gap when protein and fat have been calculated. So the amount you require is the amount left after working out your daily protein and

fat requirements. We've already calculated our 90 kg male requires 3,802 kcals on training days, of which 810 kcal should come from protein and 583 kcal from fat (if he takes the minimum amount of fat). He should therefore consume 2,409 kcal of carbs.

Low carb days

Going low carb can optimise insulin sensitivity, meaning you metabolise carbs more effectively so you may wish to try it on a training or non-training day.

ADJUSTING THE PLAN

How do you know if mass gains are high or poor quality? If you aren't assessing you're just guessing. Yes it's a pain but taking time to track key markers of body composition and performance gives valid feedback on whether your programme is working. Look for dips and progressions and change accordingly. Measure yourself on the same day and time every week to ensure the test is meaningful. Key measures include weight, appearance, skinfolds, strength, mood, and health.

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PERFECT SCENARIOS: DON'T CHANGE A THING

Scenario A

- Weight increase
- Skinfolds static/up marginally
- Leaner appearance
- Positive feedback from others
- Strength increase
- No colds/infections

Scenario B

- Weight constant
- Skinfolds static
- Leaner appearance
- Positive feedback from others
- Strength increase
- No colds/infections

NOT SO PERFECT: CHANGE

Adjust your diet if there isn't an obvious reason why you're not progressing, such as lack of sleep, stress, or poor adherence to diet/training.

Scenario A

- Weight decrease
- Leaner appearance
- Positive feedback from others
- Strength increase
- No colds/infections

SOLUTION Further increase calories according to body type described on p16, i.e., by 2%, 4% or 6%.

Scenario B

- Weight decrease
- Strength increase
- Increase in hunger
- No noticeable size increase

SOLUTION Further increase calories according to body type described on p16, i.e., by 2%, 4% or 6%.

Scenario C

- Weight up 3 lbs or more
- Skinfolds up too much
- Strength increase
- Visible fat gain or bloating

This could be from missing training sessions and/or cheating on your diet, therefore creating too great a surplus.

SOLUTION Pull calories back by 7.5 per cent daily and sit tight until weight plateaus and appearance begins to improve.



DIET TIP

If you stray from a diet, focus on your next meal, not the next day.



REVERSE FLYES

When performing these, focus on keeping tension throughout the entire range. Don't ease off at the bottom.

“HOW DO YOU KNOW IF MASS GAINS ARE HIGH OR POOR QUALITY? IF YOU AREN'T ASSESSING, YOU'RE JUST GUESSING.”



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NEW YEAR MASS

TRAINING

Target each muscle group twice a week. The more frequently you train a muscle the greater the opportunity for growth, provided recovery is complete. The programme utilises a range of 'big bang' compound moves as well as isolation and functional exercises to improve strength and aesthetics. The varied rep ranges and techniques target the three main mechanisms of muscle growth:

Mechanical Tension: when an exercise is conducted with quality and intensity through start, mid and end ranges.

Metabolic Stress: otherwise known as 'the pump'.

Muscle Damage: achieved through the eccentric portion of a rep and use of different training exercises, techniques and tools such as bands, chains, drop sets and super sets

The Split

Day 1 - Upper body load
Day 2 - Lower body pump
Day 3 - Rest
Day 4 - Upper body pump
Day 5 - Lower body load
Day 6 - Rest
Day 7 - Rest

Load Days - 5-12 Reps
(Compound Moves)
Pump Days - 12-25 Reps
(Compound/Isolation Moves)

ISOLATED DUMBBELL HAMMER CURL I hold on to the machine for extra stability.



BODY WEIGHT TRICEPS PRESS

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DAY 1 - UPPER BODY LOAD

EXERCISE	SETS	REPS	TEMPO ⁺	REST
Deadlifts	5	5	2/1/X/1	2.5-3 mins
Single Arm DB Press	4	8-10	3/1/X/0	1.5 mins
Pull Ups/Barbell Rows*	4	8	2/1/X/1	1.5 mins
Seated Military Press	4	8	2/1/X/0	1.5 mins
Bodyweight Triceps Press	4	10	2/1/X/1	1 min
Incline DB Bicep Curls	4	10	2/0/X/1	1 min
Ab Role Outs	5	10	N/A	1 min

*Barbell rows for those who can't do pull ups

DAY 2 - LOWER BODY PUMP

EXERCISE	SETS	REPS	TEMPO ⁺	REST
Prowler Push	4	25 secs	N/A	1 min
A1. Rope Pull Through	3	10	2/1/X/1	10 sec
A2. Lunges*	3	15 (p/leg)	Controlled	1.5 min
Standing Leg Curls**	4	10	1/1/X/1	1 min
Hack Squat***	4	20	2/½/0	1.5 min
B1. Seated Calf Raise****	4	15 full/5 partial reps	3/2/X/1	10 sec
B2. Watson Tibia Raise	4	10	2/1/X/1	1min

*DB Held to chest - Large Strides **Last rep 5 sec hold at bottom *** Triple Drop on final set ****5 partial reps at top

DAY 3 - UPPER BODY PUMP

EXERCISE	SETS	REPS	TEMPO ⁺	REST
A1. Incline Barbell 1 ¼ Press*	4	15	2/1/1/0	10 sec
A2. High Pulley Cable Cross Over	4	15	2/1/X/1	1.5 min
Single arm barbell rows**	5	15 (p/arm)	1/1/X/1	1 min
Low Pulley Row***	3	20	1/1/X/2	1 min
B1. Seated DB Press	4	15	2/1/1/1	10 sec
B2. DB Side Raise	4	15	2/0/X/2	10 sec
B3. Prone Trap Raise	4	8	2/0/X/2	1.5 min
Reverse DB Fly	4	15	2/1/X/1	45 sec
C1. Close Grip Press (with bands)	4	15	2/1/X/1	10 sec
C2. Crucifix Curls	4	15	2/1/X/1	1 min
Iso DB Hammer Curls	4	15	2/0/X/1	1 min
Triceps Cable Press downs	4	15	2/1/X/1	1 min
Plank****	4	15 sec	N/A	45 sec
Swiss Ball Crunches*****	4	15	2/1/X/2	45 sec

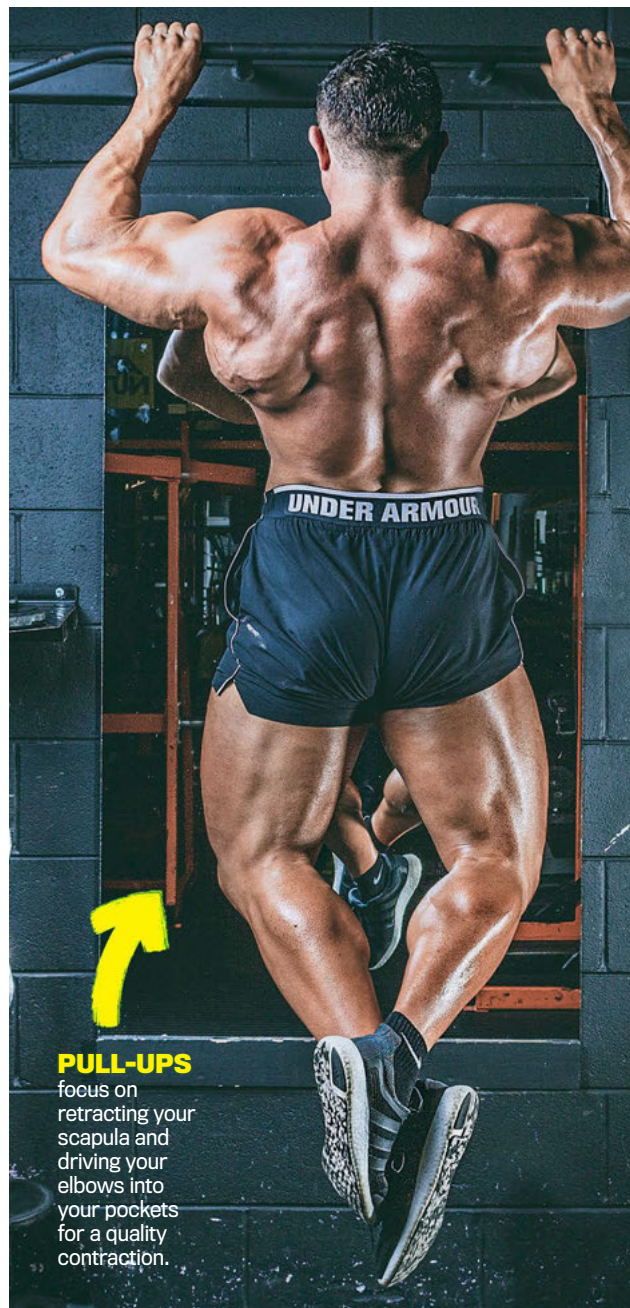
*Perform the extra ¼ rep at after 1st full rep **Lock barbell into support hinge ***Use V-Bar attachment ****Pull whole body tight and ensure maximum exhalation. *****Add load (dumbbell) under chin if needed

DAY 4 - LOWER BODY LOAD

EXERCISE	SETS	REPS	TEMPO ⁺	REST
Squat	5	8 - 10	2/1/X/1	2 min
Legs Press (Banded)*	5	12	2/1/X/1	1.5 min
GHR/Lying Leg Curls**	5	8-10	2/1/X/1	1.5 min
Seated Calf Raise	4	12	1/1/X/2	1 min
Standing Calf	5	12	2/2/X/2	1 min

*Use resistance bands **Drop set on leg curl machine

+ TEMPO NOTE The first number refers to lowering the weight, the second to the stretch at the bottom, the third to the lift and the fourth to the end position. X denotes as fast as possible.



PULL-UPS

focus on retracting your scapula and driving your elbows into your pockets for a quality contraction.

REMEMBER...

Your plan is a guide

A programme is a piece of paper that does not factor in your life: work, illness, family issues etc. Be prepared to adjust it. Monitor recovery and back off at signs of fatigue or overdoing it.

You don't need failure

For those who say, 'No pain, no gain', I say, 'No pain, no brain'. Don't think you need to feel sore and exhausted by the end of training to see optimal results. Basing progress on such factors is not productive.



SINGLE ARM CHEST PRESS

A great way to get more work output from a simple exercise. It targets the pecs while also developing core and glute stability.

Don't get crushed

The weights you're using should be light enough for your mind to focus on controlling the load - not worrying about getting crushed,

Perfect Form - Does It Exist?

The idea of textbook form is flawed. Every body is different and thus may require different techniques. Train with intent, angle your body into the best possible position to achieve maximum tension.

Adding More

Always start small and work up, assess how your body reacts to small increments in training volume and only then add more once you have achieved full recovery between sessions. Don't be afraid to add something or take something away to promote greater gains.



Belfast-based **PHIL GRAHAM** is one of UK's leading sports nutritionists and coaches. He speaks at major fitness exhibitions and hosts the well-known podcast Elite Muscle Radio on iTunes. He is close to finishing his first book, *The Diabetic Blueprint*.



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EXPERT

ADVICE ON TRAINING, NUTRITION AND SUPPLEMENTATION FROM TOP ATHLETES AND FITNESS PROFESSIONALS

Getting Stronger

Four-times
World's Strongest
Man competitor

**DARREN
SADLER**

on how to get
powerful.

PHOTOGRAPH BY TAUSEEF ASRI

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Strength to Succeed

For a man who has lived in the same small town all his life, **DARREN SADLER** has come a long way. He's competed four times at the World's Strongest Man, co-promotes the Giants Live qualifying series for the World's Strongest Man and is staging this month's Britain's Strongest Man in Doncaster as well as the big summer showdown, Europe's Strongest Man.

Sadler, nicknamed the Pocket Rocket for being able to mix it with the best despite only being 5 ft 10 ins tall, plans to make a competition comeback in 2016. Three years ago, he had a kidney transplant and since then he has concentrated on promoting events but he now wants to prove to others who have had surgery that they can still lead full lives.

Muscle & Fitness: How difficult was it to recover from a kidney transplant?

Darren Sadler: The worst thing was my lung collapsed when I was in hospital. It felt like I had a truck parked on my chest. The transplant itself just left me feeling sore. It was nowhere near as bad. I'm absolutely fine now.

How does the operation affect your training?

It doesn't affect it at all. I just have to be careful to eat well and look after myself. The most difficult thing is the amount of time I spend away promoting events, which makes it hard to stick to a training programme.

Why are you making a comeback?

I'm stubborn and don't want to be forced to retire. I've been busy promoting the last few years but I don't feel it's time to give up yet and want to prove to others it can be done

after major surgery. I just want to get back to a decent level.

What does it take to reach the World's Strongest Man?

A lot of sacrifices. You've got to be focused all the time, which means not missing any workouts and eating right all the time. You have to give it everything or don't bother.

What's your training programme now?

Every day I start with a heavy compound exercise for a particular body part then go into more bodybuilding movements.

MONDAY Shoulders—start with log and overhead press.

TUESDAY Legs—start with squat.

WEDNESDAY Chest and arms—start with bench press

THURSDAY Back—start with deadlift

FRIDAY cardio

SATURDAY Event training

SUNDAY Cardio

How difficult is it being a shorter competitor?

I don't think about it because I don't have a choice. You're as tall as you are. I suppose it helps when you're pressing overhead because you don't have as far to press but when you're lifting stones above your head it's more difficult.

British strongman **DARREN SADLER** is making a comeback after major surgery.
BY JOHN PLUMMER

How did you get involved with promoting?

I got involved through Colin Bryce when I started promoting Europe's Strongest Man in 2012. He ran the Giants Live series and said 'why don't you make it a Giants Live event?' We've been friends for 17 years through strongman so working together made sense. Europe's Strongest Man was a huge success and gets televised every year on Channel Five and Eurosport so it's taken off from there.

Who's the greatest strongman ever?

You can only go by what they achieved in their era. In the 1980s it was Bill Kazmaier then Jon Pall Sigmarsson and in the 1990s it was Magnus Ver Magnusson. In the 2000s it was Mariusz Pudzianowski and Zydrunas Savickas. Pudzianowski probably had the best strength stamina and Savickas is probably the best for raw strength but how can you compare eras? It's like asking whether a new Ferrari is better than an old one.

Will we see a 500 kg deadlift?

I think we will see it within the next three to five years from either Eddie Hall or Benedikt Magnusson.

What can we expect at this year's Britain's Strongest Man?

A battle between all the top British guys, including Eddie Hall, Mark Felix, Laurence Shahlaei and Terry Hollands. There will be six events and I'm expecting another 1,600 sell-out.

For ticket details for Britain's Strongest Man at Doncaster Dome on 30 January, visit the Giants Live Facebook page.



NAME

Darren Sadler

AGE

35

BIRTHPLACE

**Boroughbridge,
North Yorkshire**

LIVES

**Boroughbridge,
North Yorkshire**

HEIGHT

177 cm / 5ft 10

WEIGHT

120 kg / 265 lbs

AMBITIONS

To prove I can still do it after a serious illness. A lot of people don't do anything after a transplant but I'm stronger and fitter than ever.

TRAINING ADVICE

Consistency, a good mental attitude and belief in your ability are essential.

CONTACT

Visit the Giants Live Facebook page.

**"YOU HAVE TO GIVE
IT EVERYTHING OR
DON'T BOTHER."**

A full-body photograph of Rosie Harte, a professional bodybuilder, posing against a black background. She is wearing a yellow sports top with grey trim and black shorts. She has a large gold medal hanging from a red, white, and blue ribbon around her neck. Her arms are raised in a 'V' shape, and her legs are spread wide, showcasing her muscular physique. She is smiling at the camera.

Born to Perform

Multi-talented
ROSIE HARTE
is a star of stage
and screen.
BY JOHN
PLUMMER

In 2014 singer, dancer and bodybuilder **ROSIE 'RASCAL' HARTE** appeared on *Britain's Got Talent*. Her unique blend of gifts didn't find favour with Simon Cowell and his fellow judges on that occasion, but they did with a different panel of officials at last year's UK Amateur Olympia, who awarded Harte straight first places in the women's physique division, which entitles her to compete as IFBB professional around the world.

Muscle&Fitness: What was it like appearing on Britain's Got Talent?

Rosie Harte: A lot of fun. I'm pretty fearless when it comes to performing and I don't take myself too seriously so the whole experience was great. Simon Cowell was great—he likes a fit female.

Why did you want to be a bodybuilder?

I stumbled into bodybuilding and, because I was good at it, became competitive. I started training when I was finishing my dance degree because I needed more upper body strength. Before that, my passion was dancing, singing, and all things performance. I never thought of myself as competitive until I started bodybuilding, but it sparked a fierce side of me that I love.

Are people surprised when they meet you?

My pictures definitely don't give any clues to how tiny I am, so mostly people are pleasantly surprised at how dinky and feminine a champion bodybuilder can be.

What does it mean to win the Amateur Olympia?

It's massive. I've put so much into bodybuilding for 12 years with the belief that I have what it takes to go to the top. It's not been easy, I've lost faith in myself a few times and sometimes felt like my family have thought my hard work wasn't worth it. I always knew I was going to have to be patient, work hard and be resilient.

What do you hope to achieve as a professional?

I set high goals. I want to win the Olympia in women's physique. It might take a few attempts, but I believe it's within reach.

Describe a typical training week.

MONDAY Chest and biceps
TUESDAYS Quads and glutes
WEDNESDAY Hamstrings and calves
THURSDAY Rest
FRIDAY Shoulders and Triceps
SATURDAY Back
SUNDAY Rest

What's your training style?

It changes depending on what I'm trying to achieve, or what my muscle looks like. If I'm gaining muscle I sometimes go as low as five reps but in some areas, such as calves, I've found reps as high as 100 have stimulated growth. I usually respond quickly to heavy weight but my training is all about going as heavy as I can with perfect form. I've been learning all the time since I started working with my prep coach Patrick Tuor. I have absolute faith in his expertise.

Describe a favourite workout.

I enjoy lifting heavy but there's nothing like a fast pace, intense, giant quad workout with supersets and drop sets.

**SUPERSET LEG EXTENSIONS/
WALKING LUNGES** 3 x 20

**SUPERSET HACK SQUAT/
SUMO SQUATS** 4 x 10

**SUPERSET SINGLE-LEG
LEG PRESS** 3 X 10 (keep changing legs)

**SUPERSET SISSY SQUATS/
CLOSE STANCE SMITH SQUATS** 4 X 15

How much cardio do you do?

I've never done much. I have a speedy metabolism so if my diet is strict it's

NAME

Rosie Harte

AGE

33

BIRTHPLACE

Lancashire

LIVES

Yorkshire

HEIGHT

155 cm / 5 ft 1 ins

WEIGHT

52 kg / 115 lbs

CAREER HIGHLIGHT

Overall women's physique champion at 2015 UK Amateur Olympia.

AMBITION

To win the professional Olympia.

TRAINING ADVICE

Train the smartest not the hardest and be patient.

SPONSORS

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TO CONTACT

cc.compprep@gmail.com

more of a concern to keep full and hold muscle than to drop body fat. For my last prep the most I did was 2 x 30 minute treadmill speed walks split into a morning fasted session and one after my weights. I also added some Stair-master sessions in the last six weeks to add detail to glutes and hamstrings.

What do you eat in a typical day?

MEAL 1 Eggs, oats, banana and grapefruit

MEAL 2 Chicken and sweet potato

MEAL 3 Steak, rice and greens

MEAL 4 Chicken and sweet potato

MEAL 5 Fish and greens

MEAL 6 Salmon and greens

I also have various oils throughout the day for essential fats. In off-season I sometimes have some extra simple sugars after training and snack on salted almonds in the evening.

EXPERT

BIKINI BODY



Perfect proportions

British training expert
MICHELLE BRANNAN
on how she helped
Krish Kataria
maximise her
genetic potential by
reducing her waist.

THE CLIENT

Krish Kataria, 28, is a high performing woman in and out of the gym. She has a degree, speaks five languages and holds a demanding job as an account director. She is also one of the most genetically gifted women I have worked with, so I knew she had potential when she joined my Showgirls training team. Krish wanted to compete in a bikini fitness contest, but if we were to make the most of her structure, we would have to juggle her training with her career and focus on bringing her waist down.

CREATING AN X SHAPE

Krish has always been athletic. She is a former handball player and was goalkeeper for the Swedish under-16 football team. She started lifting weights after university then decided she wanted to compete after seeing photos of bikini competitors.

Her midsection was a priority area. Not that it was weak—far from it. Like many sports people, Krish had trained her core heavily, which is good for functional sports but dangerous when you're focusing on aesthetics.

Bikini competitions are about balance and symmetry. You are judged on overall presentation and the flow of your body, which means creating an X shape on stage, with the centre of the X being the waist.

A small waist is therefore vital yet lots of women (and men) who start training become fixated on getting abs and embark on extensive abdominal training regimes without realising that building up this area will actually thicken the waist and make their midsection bigger, which ruins the X shape.

Bikini is not an extreme look so it's not about having the best six-pack. Some visible abs are OK providing the waist is small and the level of definition matches the rest of the body but they're not essential. Krishna's wide waist, accentuated by her short stature, was a concern.

TUMMY TROUBLE

In the competitors I train, abs are only ever a by-product of using free weights and doing exercises like squats and deadlifts. We do not deliberately thicken the waist by trying to build up abdominal muscles. The first thing I asked Krish to do was to stop any weighted abdominal work, and only train abs once a week by doing:

5 x 20 unweighted forward crunches
5 x 20 reverse crunches
Some planks



Krish has strong quads so we avoided heavy weights on leg days.

She did nothing else and was told to specifically avoid twists and side bends. I then instructed Krish to wear a weights belt at all times when lifting to stop activating her external oblique and rectus abdominus muscles too much during compound moves.

Weights belts generate controversy amongst personal trainers. Many say they inhibit functionality and create imbalances, including a weak core, which can later lead to injury. But bikini competitions are about aesthetics and, for me, belts keep the waist small, which is absolutely necessary. One thing I must add is that even if you wear a belt, you must still engage your inner core muscles.

We have two layers of abdominal

muscle: external and internal. The external rectus abdominus and obliques are the most visible. But the internal transversus abdominus, multifidus and pelvic floor are also important. The transversus abdominus acts as an internal corset by supporting your trunk.

INTERNAL VS. EXTERNAL ABS

I encourage women to aim for strong internal core muscles rather than over developed external muscles. This does not mean you do not have a strong core; it just means you do not have thick muscles around your waist. Dancers are good examples of this: they have strong internal cores for



At M10 Fitness in Nottingham with her British Championships trophy.

“Krish’s waist reduced from **28 inches to 21 inches** by the time she got on stage.”

spinning but do not have the abs of a fitness model.

Another thing to be aware of when wearing a weights belt is not to lose control of your inner core. Some people actually push their bellies out against the weights belt, which can cause injuries and lead to a pot bellied appearance. We have all seen people with strong abs and protruding stomachs, which is not nice. Stay in control of your internal abs.

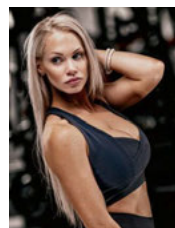
With careful time management, Krish was able to weight train five times a week. She did lower body twice and upper body three times, plus cardio six times a week. She avoided heavy leg work because her quadriceps were already well developed from years of sports.

For diet, we started to lean her down 12 weeks out from her competition, keeping carbohydrates in her diet pre and post weight training and included weekly carbohydrate refeeds up until her contest.

As Krish’s training progressed her waist reduced from 28 inches to 21 inches by the time she got on stage. This was only two inches more than her thighs so it was safe to say we had created that X shape for the stage.

THE RESULTS

Performing was not new to Krish: she once had a job playing Mickey Mouse at Disneyland Paris for 10 months but being on stage without a costume was a new experience. She won her first show and in her second became British champion in her height class, beating a huge line-up of some 35 women. Krish’s genetics, coupled with the right training, have given her the perfect bikini competition look and she went on to finish fifth at the Amateur Olympia in Liverpool the same month. Not only has Krish transformed her body, she is also feeling good inside and out.

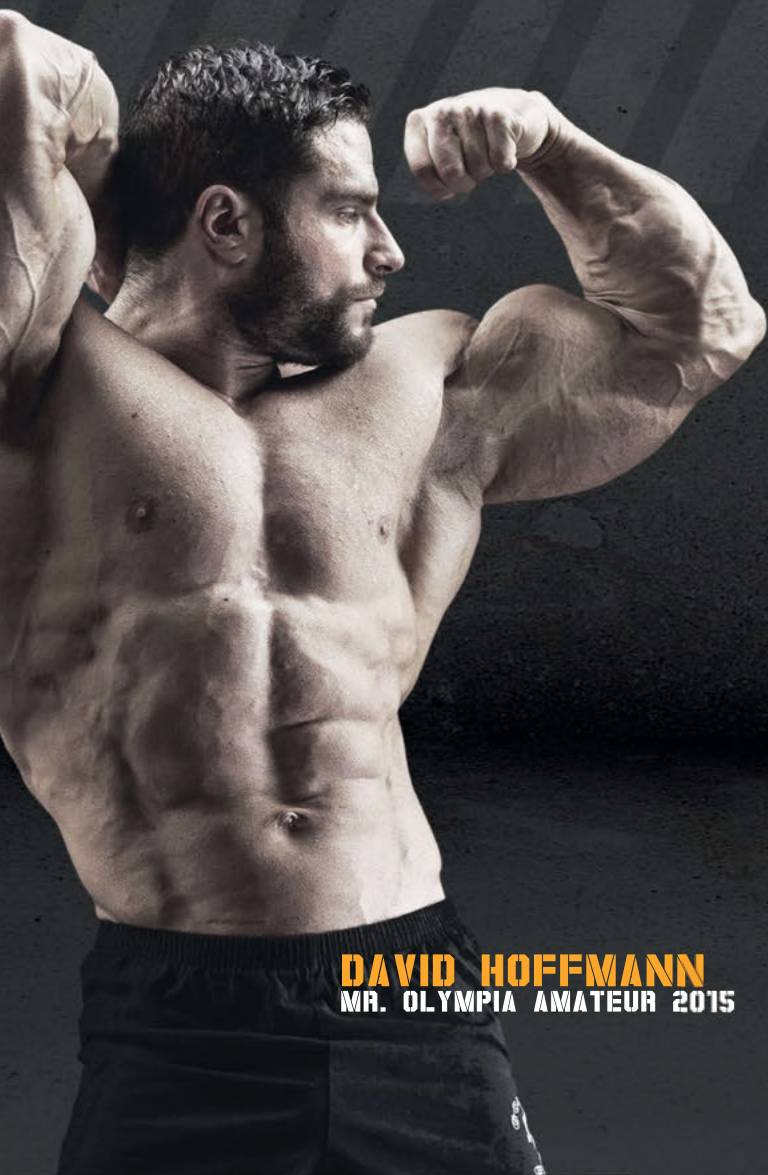


ABOUT MICHELLE

Michelle Brannan is an IFBB bikini pro. She also runs a coaching team called Showgirl Fitness and the online training subscription resource BodySculpt Pro. michellebrannan.com.

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Then you competed in a ton of shows.

I started competing in small amateur shows when I came to America in 1976. I did Mr. Compton and took third place. [Legendary bodybuilding coach] Charles Glass was first. I went to Mr. Universe, IFBB World Championships. Mr. Olympia never seemed to be in my cards.

I missed qualifying, but in 1980 I won the IFBB Pro Mr. International and in 2012 I did the Masters Olympia.

Casual fans would wonder how you stuck with it if you weren't winning.

The energy you generate preparing for competitions spills over into other areas of your life and motivates you. It's not for everybody, but I find it's a very special experience. I loved preparing for bodybuilding competitions. It's not practical for all of us to do, and maybe not desirable either, but given the choice I would, even at this point, regularly enter competitions because of the revitalizing effect it has on my life.

And yet a lot of very young competitors talk about the draining part of contest prep.

When you're young, your ego is in all directions. As a mature bodybuilder, you can't go on that way. Training in your 60s is about taking care of yourself like you would a classic car. If you want a car to keep running, you don't take it out on bumpy roads. But if you drive it in parades, it would run for a very long time.

The Mighty Andreas

Thor from cult hit *Kung Fury* is bodybuilder **ANDREAS CAHLING**. BY MATT TUTHILL

M&F: You're 62—a bodybuilder for almost 50 years! How did you get your start?

AC: I was 12 years old when my friend invited me to an amateur wrestling club. I quickly took a liking to it. It was good for my self-esteem. I was shy and insecure. At the

wrestling club, they had weights, and at that time some of the coaches thought it would ruin a wrestler's technique. They said don't use it. It was very controversial. But I started using them and found it helpful. At 17, I entered my first bodybuilding contest.

How'd you get into *Kung Fury*?

"The creator found me on Reddit. Finding a bodybuilder with a beard was very hard for him. It wouldn't have happened if I wasn't still competing."



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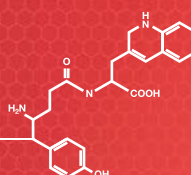
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'Keep the weights heavy even when you're trying to get shredded.'

British fitness expert **ROB RICHES** on why he keeps the weights heavy to get lean.

ACHIEVING A LEAN, MUSCULAR LOOK with clearly defined separation requires more than being consistent in the gym and a good diet. Consistency will only get you so far. It's progression and manipulation that will allow you to go the extra lengths to achieve the much-desired shredded look.

Last month, I covered different cardio types and provided a plan to help you achieve lower fat levels without sacrificing muscle mass. In this issue, I want to talk about weights, specifically what to do and what not to do to get clearly defined muscle bellies.

Before we start, if you're serious about creating a lean physique, then set a deadline for achieving it. Whether you're doing it for a photo-shoot, a competition, or just to look better for summer, it's important to set a date to keep structure and focus and to act as a reference point for monitoring progress.

THE COMMON MISTAKE

All too often I see people who want to get lean change their training from lifting heavy, free weights, using fixed sets and reps, to doing high volume, lighter weight workouts on machines and lots of circuits.

They think this will condition their muscles to get that striated look, but by changing what they've successfully been doing to build muscle - lifting heavy weights with intensity, and limiting each workout to 1 or 2



muscle groups—they are no longer providing the body with the same stimulus to keep big, full muscles.

Changing your routine too drastically by suddenly using lighter weights and extra volume and training at lower intensity, or by hitting multiple muscle groups each session, will soon result in your muscles losing size and fullness and your body beginning to look flat, soft, and even stringy.

This is because your body is adapting to the change in stimulus. Whereas your body used to need to keep its muscles full and adapt to constantly increasing stress from the repetitive lifting of heavy weights, now it just needs to be more efficient at performing work at an increased volume.

Because your body doesn't need big and full muscles to perform its new function, it begins to transform and this can leave a lot of lifters scratching their heads and wondering why they don't look as good as they did a few weeks ago.

THE SOLUTION

Doing more cardio and tightening your diet will only get your physique so far in the quest for being ripped. How you structure your weight training sessions is what will ultimately help you reach that ultra lean look.

“YOU HAVE TO **PRIORITISE WEAK POINTS** AND TRAIN THEM BEFORE THE STRONG MUSCLE GROUPS.”



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WHEN WEIGHT TRAINING TO GET SHREDDED, FOCUS ON...

APPROACH:

After warming up the muscle to be trained for no more than 5 minutes, do big compound movements first followed by free weights, machines, cables, and body weight exercises.

FOCUS:

Give weak body parts priority by training them first and consider splitting them across different workouts in the week.

INTENSITY:

Your strength may weaken as you tighten your diet and increase cardio duration, but that shouldn't prevent you from trying to lift heavy. Start heavy, then use training principles like rest-pauses, drop

sets and supersets to keep stress on the muscles high.

VOLUME:

If you're getting ripped your body is probably running on a calorie deficit so keep workouts under an hour and perform exercises with minimal rest between sets. I often do a greater variety of exercises in each workout to hit the muscle fibres from more angles.

REPS AND SETS:

Keep your rep-range between 8-12 and continue to lift as heavy as you can with form and strictness. Use rest-pauses, dropsets and supersets when you reach failure. Do 3-4 sets per muscle group.

TEMPO AND REST:

Although I don't often count my tempo during regular lifts, when my focus is on conditioning and getting ripped, I slow down when I lower the weight and become more explosive when I lift it. I find a tempo of 3-0-2 works best. Rest for no longer than 90 seconds between sets for large muscle groups and 60 for small ones.

FEEL THE MUSCLE:

The clock is ticking to your deadline so every workout counts. Ensure that with every exercise and rep you actively contract and flex the muscles being worked. Don't just go through the motions.

The biggest transition in my physique came between my first ever competition back in 2005 and the same event a year later. When I trained for that first contest, I changed my workouts in the final weeks from heavy weights to more volume work using cables and machines.

The following year, I was more experienced and knowledgeable and kept lifting heavy free weights right up until the competition. The result? It looked like I had put on much more muscle than is usually achieved in a year of training. I easily looked like I had 10 pounds more muscle, yet in reality my weight was only a few pounds up.

I did change a few things in the final eight weeks of my diet but the main difference was letting my cardio and diet take care of my reduction in body fat while my weight training focused on keeping my muscles big and full.

When you're trying to modify your physique to a set date, the main change I would recommend is to focus on your weaknesses early in your workout when you're feeling fresh and strong.

My rear delts used to be a weakness so in the run-up to my next show, I started shoulder workouts with exercises that targeted the rear delts first, even though this meant straying from a typical shoulder routine.

When you're trying to achieve striations and separation, and present an overall balanced and symmetrical physique, you have to prioritise weak points and train them before strong muscle groups or ones you enjoy training the most.



ABOUT ROB

British-born Rob Riches is a top-level fitness competitor, cover model, and published author. Rob now lives in California and works with high profile athletes and celebrities, as well as running a successful media company. Find out more at www.RobRichesFitness.com

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Michelle Morris

The two-time British bodyfitness champion is an adrenaline junkie.





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Definitely my glutes. They've always been peachy even before I learned how to squat.

IDEAL GUY

My boyfriend Charlie. He lifts and competes and we run a gym together. Ideal!

AMBITION

To be competitive on the Olympia stage one day.

HIDDEN TALENT

Riding motorbikes—anything from Motocross to trials bikes. I'm an adrenaline junkie!

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171 cm / 5 ft 7 in

WEIGHT:

67 kg / 147 lbs



NEWS / INTERVIEWS / SPORTS / GEAR

“It’s the Will to Survive.”

A terminal cancer diagnosis couldn't keep **MATT KLUTKA** out of the gym. Every day he's training his ass off—and with every rep, defying the odds.

BY MATT TUTHILL
PHOTOGRAPHS BY CHRISTOPHER NOLAN

IF YOU HAD ONLY A FEW

weeks to live, how would you spend your time? It's the hypothetical question that trumps all others, and most guys answer it the same way: They'd make peace with their loved ones, then go out with a bang. Vegas is usually mentioned. So is booze. Maybe an outrageous diet of pancakes and doughnuts like Bill Murray's in *Groundhog Day*. Forget training and eating clean. You can't take fitness with you, right?

But in so many ways, Matt Klutka isn't most guys. He's facing that very

question now, and not as a hypothetical. In August of last year, doctors gave Klutka just a few weeks to live. Since December of 2013, Klutka has been battling a rare form of cancer—leiomyosarcoma—that began in a vein near his heart and spread to his liver and lungs. Multiple operations have weakened him. Chemotherapy has made him sick. And despite some success in his treatments, the cancer has come back each time.

Nevertheless, nearly every day—and even on his worst days—the

36-year-old is training, either in his basement gym or the local place near his home in Patterson, Pennsylvania. If old habits die hard, Klutka gives new meaning to the adage. He's an avid weightlifter, distance runner, and snowboarder—with a lean, muscular physique to match. Even as chemotherapy sent him running to the toilet to puke, you couldn't keep him away from the weights.

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"It's the will to survive," Klutka says when asked why he's still training. "To be here for my son. Eating clean and working out—the only thing it can do is prolong my life."

The trouble started about two years ago. Though Klutka ran half marathons regularly and could breeze through a 5K in about 21 minutes, he noticed that his work capacity had suddenly diminished. His runs started to feel harder, and short distances began to tax him. When his legs began to swell, he thought it might be a complication from old back injuries he suffered while playing high school and college football. The issue came to a head one day when he could push his thumb nearly 2 1/2 centimetres into his shin.

"That's how bad the swelling was," Klutka says. "A co-worker told me, 'That usually means only one of two things—heart failure or kidney failure.'"

Klutka was rushed to the hospital where doctors found heavy blood clotting and a large mass that had taken root in his inferior vena cava, the largest vein in the body that brings blood back to the heart from the lower extremities. Doctors initially believed it was a large clot, but a second opinion revealed that it was cancerous.

Klutka immediately underwent aggressive chemotherapy in the hopes of shrinking the mass enough to remove it in a surgical procedure that carried a survival rate of only 30-50%. After a week and a half of constant headaches and vomiting from chemotherapy, he made a decision: If he was going to survive surgery, he needed to be in the shape of his life. He took himself off bed rest and went down to the basement with one of his good friends, Mike Schlack. They devised



NEVER STOP FIGHTING Klutka trained through chemotherapy, vomiting between sets.

circuits of 10-15 reps on exercises with two minutes of skipping between each one. On chest day he'd bench, then do ring pushups, dumbbell flies, and incline dumbbell presses.

Klutka would often get sick in the middle of the routines, run to the bathroom to vomit, then return to finish his set. Rather than lose weight and begin to appear sickly, he built himself up from about 86 kg (a weight at which he could bench 184) to 93 in three months.

The major operation in March of 2014 was successful. Besides removing the mass, doctors also took his right kidney (which had died due to lack of blood flow), part of his intestine, and scraped his aorta and pancreas. But complications ensued. His body began leaking lymphatic fluid, and he blew up to 118 kg due to the fluid retention. Doctors needed to install a port in the side of his abdomen to drain the fluid—and keep it there for two months.

His long slog through the ringer

continued: An unrelated operation for his back issues followed, and he contracted a MRSA infection during the discectomy that paralyzed him for two months. Two more operations were required to fix the damage.

By the time he was back on his feet and training again in August of 2014, a scan revealed a spot on his liver and several on his lungs. It meant more chemo and another surgery in November. By January of 2015, the spots were back yet again. This time, Klutka was offered an experimental trial of a new drug.

"They call it immunotherapy," he says. "It teaches your immune system to fight the cancer cells, and it had worked for other people. It didn't work for me."

Moreover, the experimental drugs destroyed his thyroid, the clots came back, and new cancer formed in a vein close to his heart. When doctors discovered the new mass last August, they told Klutka he had just a few weeks to live.

"It's very overwhelming when you get news like that," Klutka says. "The first thing I thought about was my family—my parents, my son, my girlfriend—how much I'm going to miss them. You think, 'How could this be happening?' I've worked so hard this whole time, how could it be

"I'VE BEEN BLESSED WITH A LOT OF AMAZING THINGS IN LIFE...THERE'S NO REASON TO FEEL BAD FOR ME."

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getting worse? Then you come back down to earth and put your faith in God. You just get back into your regular routine and have a will to live. I keep going with my diet. I'm still eating clean. I keep going with my workouts—even on days I don't want to get up. I push myself to get up and do it. I feel pretty good right now. I have a little pain in my chest—it's hard to breathe when I do cardio because I have tumours and clots in my lungs.

"But my thought is this: How much do the doctors really know? They can't cure it, so how can they tell me I have only two weeks to live? I just don't believe them. It's already been a month and a half."

In the face of immeasurable hardship—besides the pain, he's been saddled with astronomical medical bills—Klutka insists that the whole situation is a blessing.

"It's put a lot of things in perspective for me," he says. "The things I used to worry about or obsess over, I know they're just meaningless. I wanted to make all this money and buy all these things. And now I realise all the most important things are right in front of me: My son, my mom, my dad, my girlfriend, my friends. Time is the most precious currency we have. You never know when your time is up. You have to take advantage of every moment you have with your friends and family and loved ones because that can be taken away in an instant. Everything else can be replaced."

Klutka has been forced to stop working as a sales representative for a plastics company—he was in line for a promotion to management before he got sick—and has since used any time that he's not training or undergoing treatments to spend time with his 11-year-old son, Cebran, his parents Andrew and Kathy Klutka, and his girlfriend Chelsea Howe, whom he met through mutual friends and began dating in January last year.

"She met me when I was sick, and she still decided to date me," Klutka says. "I've got a great girlfriend. I've

been blessed with a lot of amazing things in life."

Friends will come to visit and check in on him. Some of them get pretty upset when they hear about his prognosis. Klutka doesn't cry with them. He tells them to knock it off. He's continuing to defy the odds and has been able to maintain a level of strength in the gym that's uncommon to most men, never mind cancer patients—just four months ago he hit 21 reps of a 102-kg bench (his all-time best is 33), and benched 143 kg for three reps.

"I just tell people, 'Hey, I'm still here. I still feel pretty good. There's no reason to be upset. Let's be happy and do something fun,'" Klutka says. "I try to motivate people

IRON WARRIOR Eighteen months into treatment, Klutka benched 102 for 21 reps.



HOW TO HELP

To help cover medical costs and provide for Klutka's son, Cebran, you can donate to his GoFundMe page: gofundme.com/klutkaskrusaders

and make them happy. There's no reason to feel sorrow or feel bad for me. I'm doing the things I want to do, and if it gets cut short, it gets cut short."

Klutka's made a point of engaging in every father-son bonding experience he can think of. He brings Cebran snowboarding, and the two play a lot of Xbox and Playstation; *Madden*, *Forza*, and *Halo* are favourites. His main goal at this stage is to strengthen his bond with his son as much as possible and for Cebran to know how much he's loved. To that end, he also trains with Cebran. He wants his son to remember that his dad was always a fighter, and every rep carries with it the hope and intention of being able to spend more time together.

"Training takes me to a place where I'm at peace. I can gather my thoughts," Klutka says. "I reflect on things while I'm working out. It helps me work through everything. It's a stress reliever. And it helps me feel like I'm still working toward surviving. I've never given up on anything, and I'm not going to start now."



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Giants arrive

Europe's best set for summer showdown at new Leeds venue.

BY JOHN PLUMMER

THE WORLD'S BIGGEST strongman event is set to get even bigger in 2016. Europe's Strongest Man is moving across Leeds from Headingley Carnegie Stadium to the 13,000-seat First Direct Arena on July 9.

Headingley already attracts about 6,000 spectators each year, making it the largest global audience for a live strongman event. But promoter Darren Sadler hopes the move from an outdoor stadium to a modern indoor arena with a light show and top class acoustics will see ticket sales rocket beyond 10,000.

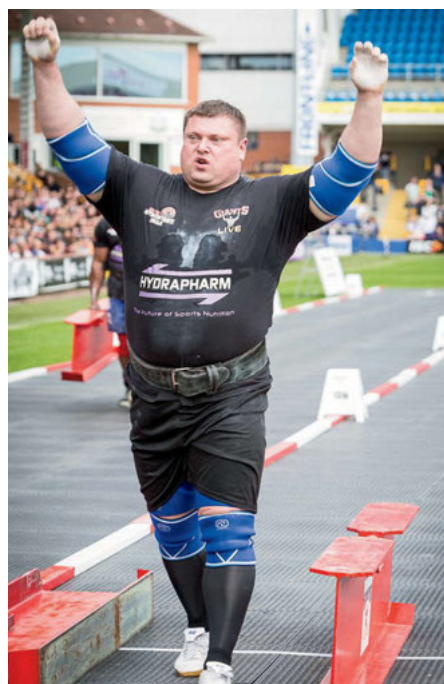
"Europe's Strongest Man is already a major success, but this is going to be huge," says Sadler. "It'll be a Saturday night show in the middle of Leeds and the biggest strongman event ever."

Lithuanian legend Zydrunas Savickas is expected to attempt to win back the title off Iceland's Hafthor Bjornsson. Brits Eddie Hall, Terry Hollands, Mark Felix, and Laurence Shahlaei are also set to jostle for honours and the televised event will once again incorporate the World Deadlift Championships, which saw Hall break the world record last year.

Europe's Strongest Man is part of the Giants Live series of qualifying events for the World's Strongest Man.

The series, co-promoted by Sadler and Colin Bryce gets underway this year with Britain's Strongest Man at Doncaster Dome on January 30.

The two men have also set up the ranking website Official Strongman, which allows anybody to upload videos of their best strongman and powerlifting lifts and see how they compare against others. Top ranked competitors will be eligible to compete in major contests, including the World's Strongest Man.



ABOVE Thor on his way to victory last year. **LEFT** The Big Z: will he return to win a fourth title?

EUROPE'S STRONGEST MAN RECENT WINNERS

- 2007** Mariusz Pudzianowski / Poland
- 2008** Mariusz Pudzianowski / Poland
- 2009** Mariusz Pudzianowski / Poland
- 2010** Zydrunas Savickas / Lithuania
- 2011** No contest
- 2012** Zydrunas Savickas / Lithuania
- 2013** Zydrunas Savickas / Lithuania
- 2014** Hafthor Bjornsson / Iceland
- 2015** Hafthor Bjornsson / Iceland

*** SEE TRAINING TALK ON PAGE 30 FOR AN INTERVIEW WITH DARREN SADLER**

MONICA BRYCE (THOR); MATT MARSH (SAVICKAS)

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Hail Cesaro

The “Swiss Superman” Cesaro has caught on with WWE in a major way.

BY SCOTT FELSTEAD



At our 2014 cover shoot with John Cena, Cesaro squatted 225-kg for sets of 5.

M&F: Was it hard to break into WWE from Switzerland?

Cesaro: It wasn't easy. I started training about 15 years ago. At the time, pro wrestling was not that popular there. It was really difficult to earn match experience so I'd have to drive four to five hours for bouts in Germany just to get out there in front of crowds. I wrestled all over the world, including Japan, before I signed with WWE.

You travel about 300 days a year. How do you keep up?

The key to success is endurance. You have to be strong throughout the entire match. That takes great stamina. In terms of the quantity of matches...we have no off-season, no holidays. We have to stay in our best shape all year round. Whatever happens I always try to make sure I get at least three to four sessions in

per week. A typical gym session will last around 1½ hours. But I'm not happy to just maintain. I'm getting stronger all the time.

The Cesaro Spin [pictured] is a real crowd pleaser. How did you build that strength?

I guess there are lots of ways. We had a great strength coach here in WWE who was an Olympic weight-lifter. I'm also a believer in functional training to meet my goals, so I do a lot of body-weight exercises.

Many fans are excited to see your technical style.

I love the technical style, whether it's European or lucha libre. A lot of people associate Mexican wrestling with high flying, but it's very technical, too. The American style isn't as technical, so I feel I bring something different.

Some Superstars, most notably The Rock, have made it big in Hollywood. Would you want to try acting?

Well, at the moment, I have wrestling on my mind, but of course I would be open if the right offer or role came along. WWE has a studio and makes movies also. I think wrestlers are a natural fit for television and movie roles. When you consider we have to do all our own stunts, promos, and tell a story in the ring with passion, wrestlers are well suited for roles in TV and movies...I think maybe I would make a good Bond villain!

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Tri-Force

Professional triathlete **PEDRO GOMES** knows that sometimes less is more.

BY MARK BARROSO

FOR PRO TRIATHLETE Pedro Gomes, more training doesn't mean better results. The two-time Ironman champion finds that harder training sessions followed by adequate recovery yields more speed.

"Keeping a balance between weeks of 30 hours of hard training and weeks with 15 hours of easier sessions will make you faster," says Gomes. "In the off-season, it's 15 hours biking, seven hours swimming, and the rest running."

Aside from sport-specific training, Gomes, 32, does squats, planks, and floor exercises for core strength and to prevent injury. The most intense training sessions mimic

the storied Ironman World Championship race in Kona, Hawaii.

"An island is nothing more than an eight-hour training day," says Gomes. "In training, I'll do an hour swim at race pace, five to seven hours biking with 30-minute race pace blocks, then I run."

To help recover from a race, which can take a few days, Gomes says nutrition is key, and he uses

Compressport full-leg sleeves to help improve blood flow to his overworked muscles.

In 2016, Gomes looks to improve his performance at Kona—where over 2,000 of the top 50 triathletes in the world get a slot. "Professional triathletes want to win at Kona, and that's my goal. It's our Olympic Games."

GOMES' TOP 3 IRONMAN TIPS

Thinking about doing an Ironman? Gomes says to start here.

1 BUDDY UP

Find someone who has done a triathlon and follow them every step from registration to finish. A lot of things can help you finish faster.

2 JOIN A GROUP

Find a group of triathletes in your town and train with them. I live in Phoenix, Arizona, and there is a strong tri-ath community in the area.

3 FUEL RIGHT

For long triathlons, find a nutrition plan that works for you. Race-day nutrition takes you a long way.





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BY PAMELA NULLET

MODEL-TRAINER Astrid Swan is proof you can't judge a book by its cover. Yes, she's stunning, but if you stepped into her boot camp class, she'd leave you weeping on the floor. At age 3, she told her parents she wanted to change the world. Here's what else you need to know about her.

SHE...

...hates it when guys forget to work on their legs. "It drives me insane when I see men who have great traps, shoulders, and back, then it's 'What's going on down there?'"



...loves Enrique Iglesias. She saw him in the casino after his concert in Las Vegas and hid behind the slot machines because she was so nervous.

...enjoys any kind of nut butter and will sit and eat the whole jar if you let her. "I should probably go to some sort of a 12-step about this."

...likes to flirt, but you better be up for a challenge. "I'm not the type of girl who's going to be like, 'Oh, he's so cute' and just giggle. I like a good verbal sparring match."

...once had to plunge into a snowbank to get to her car. Rather than sit in wet clothes for the two-hour drive to her photo shoot, she hung them on the seat to dry. Truckers blowing their horns made for a "fun" ride.

...feels sexiest after a killer workout. The "post-gym glow" and slicked-back hair make her feel confident and powerful.

...still wears her retainer every night.

IN SESSION

Julianne Hough, Olivia Munn, Ryan Seacrest, and Aaron Sorkin have all attended Astrid's classes.

FOLLOW ASTRID on Twitter and Instagram: [@astrid_swan](https://www.instagram.com/astrid_swan) and find her on the Web at astrid-swan.com



TRAIN

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Mass Appeal

After a top four finish at the 2015 Mr. Olympia Men's Physique Showdown, IFBB physique pro **RYAN TERRY** is training to get bigger and leaner than ever. Find out how the 2010 Mister International is getting jacked fast.

BY MARK BARROSO

WORKOUT

Turn the page for Ryan Terry's exclusive arms and abs routine.

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IFBB PHYSIQUE PRO Ryan Terry is in the business of fitness, and his stock is soaring fast. In 2016, the aesthetic Briton—and owner of RT Pro Wear—hopes to get invited to the Arnold Classic Men's Physique, defend his Pittsburgh Pro title, and compete at the New York Pro. For Terry, intense training is a habit.

"I've had a passion for training since I was 14," Terry says. "When I was younger, I did gymnastics, swimming, and soccer. I had a good response when I did more weight training."

In the past five years, Terry has put on about 26 pounds, and his off-season training is still geared toward size.

"I do two weeks of heavy weight, low reps with long rest periods; then two weeks of slightly more reps, less rest, plus dropsets/supersets; one week of 15 to 18 reps with no rest; then I start back at Week 1," Terry says. "You're trying to shock the body every week."

To stay lean the former plumber by trade does steady-state fasted cardio in the morning six times a week. "Staying lean year-round is a necessity," Terry says. "You get about a week's notice for photo shoots, and that's my main source of income. I'm never more than about nine to 10 pounds off my stage weight."

TERRY'S ARMS AND ABS WORKOUT

EXERCISE	SETS	REPS
Triceps Dip*	4	8
Single-arm Triceps Cable Pushdown	3	10-12**
Skull Crusher	3	10-12
EZ-bar Curl	3	8-10
Single-arm DB Curl	4	8-10**
DB Hammer Curl	3	8-10
Situp	4	50
Oblique Twist	3	20**
Plank	3	Failure
Weighted Crunch	3	12-15

* Start with body weight and pyramid up. one dropset on the last set to failure.

** Each side.

TWO-TIME CHAMP

Terry's accolades include the 2013 European Arnold Classic Championship and a British National Championship.



TERRY'S TOP 3 ABS TRAINING TIPS

Follow these pro tips to carve a ripped core like the one that Terry is famous for.

1

RAISE YOUR LEGS

I start my abs workouts with the hanging leg raise, which helps achieve the "V." It's my favourite abs exercise.

2

DON'T GO HEAVY

Don't use heavy weight with oblique moves; you'll thicken the waist. Use high reps and light weight.

3

SHAKE THINGS UP

Vary your workouts so you hit upper, lower, obliques, transverse abdominis, and the entire core.

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What a Waist

Your midsection ties your entire physique together. Treat it right. **BY FRANK ZANE, M.A.**

WHEN I WAS just starting to get involved in bodybuilding, I remember seeing photos of Spanish bodybuilders. They all had great midsections. This made them impressive even though the rest of their bodies were underdeveloped. I liked this look and figured out early on that a small waistline was the linchpin of the entire physique.

CARB CYCLE

Every fourth day, Zane says, eat as many carbs as protein, then drop carbs in half and repeat the cycle.

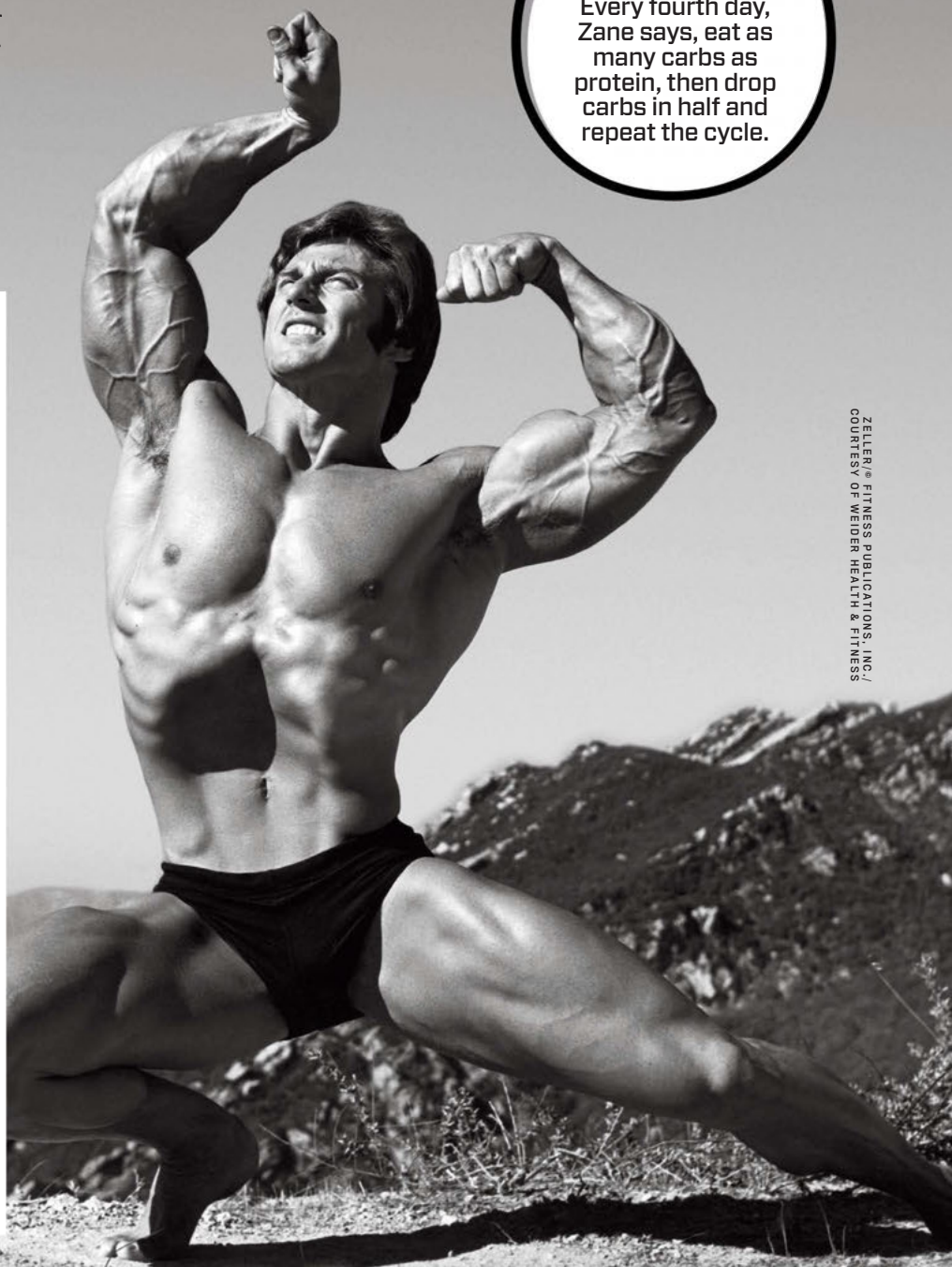
THE 4 SECRETS FOR A SMALL WAISTLINE

1 DON'T FILL UP. Instead, eat frequent, small meals, and drink slowly. When you eat a lot of food it takes a long time to digest it; this inefficiency also blunts the nutritional benefits.

2 EAT CLEAN. Besides eating minimally processed foods, this means fewer carbs than protein. Eat one gram of protein per pound of body weight when leaning out and a half gram of carbs per pound.

3 DO ENOUGH CARDIO. This will keep you tight everywhere. If you get bored, make it interesting. Play basketball or go mountain biking. Don't overthink it. Just sweat.

4 WORK YOUR ABS A LOT. Gradually build up reps on four exercises until you get to around 1,000 for the day. Break it up; however. You need to; it's easy to bang it out in bunches.



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Lay Back, Six-Pack

There may be no better exercise for making your abs pop than the decline situp, which trains all of your deep core as well as six-pack muscles.

BY SEAN HYSON, C.S.C.S.

HOW TO DO IT DECLINE WEIGHTED SITUP

- 1 ANGLE A BENCH**
downward. Hook your feet under the pad and hold a weight plate on your chest.
- 2 EXHALE AND CURL**
your body up off the bench until your elbows touch your thighs. Slowly return to the start.

DID YOU KNOW? The decline situp works not only the abs but also the hips, making you a better runner and stronger squatter. The extra weight forces maximum recruitment of the rectus abdominis, promoting growth of the six-pack muscle so it can show even under your shirt.



QUICK TIP

Start with a shallow angle to get used to the exercise then make it steeper over time.

GROOMING BY CHRISTIE CAIOLA; SHOT ON LOCATION AT MATRIX FITNESS, ASTORIA, OR



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Back to Basics

Bodybuilder **STACY TAYLOR** owes his longevity to an old-school approach.

BY MARK BARROSO

AT AGE 49, Stacy Taylor won the light-heavyweight class at the 2015 NPC Florida State Championships, 17 years after his last show. The president of BodyBags Authentic Gear jumped back onstage to answer a Facebook jab.

"I said I'd seen better-conditioned bodybuilders 15 years ago, and someone replied, 'If you can do better, show them,'" says Taylor.

The basics—squat, bench, and shoulder press—are Taylor's bread-and-butter lifts. Nutrition is calculated, too, and he exceeds target macros two days per week.

"I've always eaten six to seven meals a day, aiming to hit 400 grams of protein and 500 grams of carbs," Taylor says.

His top gym rule is strict form.

"Quantity of weight is less important than quality of rep."

TAYLOR'S SHOULDER WORKOUT

DIRECTIONS: Taylor pre-exhausts the deltoids to ensure presses don't get too heavy. Try Taylor's injury-proof routine.

EXERCISE	SETS	REPS
Dumbbell Lateral Raise	6	6-10
Upright Row	4	6-10
Smith Machine Military Press	4	6-10
Rear Pec-deck Flye	4	6-10
Barbell Shrug	6	8

GOING STRONG Taylor aims to win the 2016 NPC Florida State Championships and Masters Nationals.

TAYLOR'S STATS

HEIGHT: 5'10"

WEIGHT: 215 lbs

AGE: 49

RESIDENCE: Venice, CA & Sarasota, FL

WEBSITE: [bodybags clothing.com](http://bodybagsclothing.com)



TAYLOR'S PREHAB TIPS

Follow his lifting advice to keep your joints healthy.

1

AVOID BEHIND-THE-NECK PRESSES

Palms behind the ears force the shoulders to rotate backward and place a lot of stress on the shoulder joints.

2

BAR ONLY

Before shoulder-pressing, bench-press with just the barbell to stretch the front delts and entire shoulder girdle. Lower the bar slowly.

3

STRETCH OUT

Stretch every muscle that's being trained through its full range of motion before a workout. It's better to weaken the muscle than get injured.

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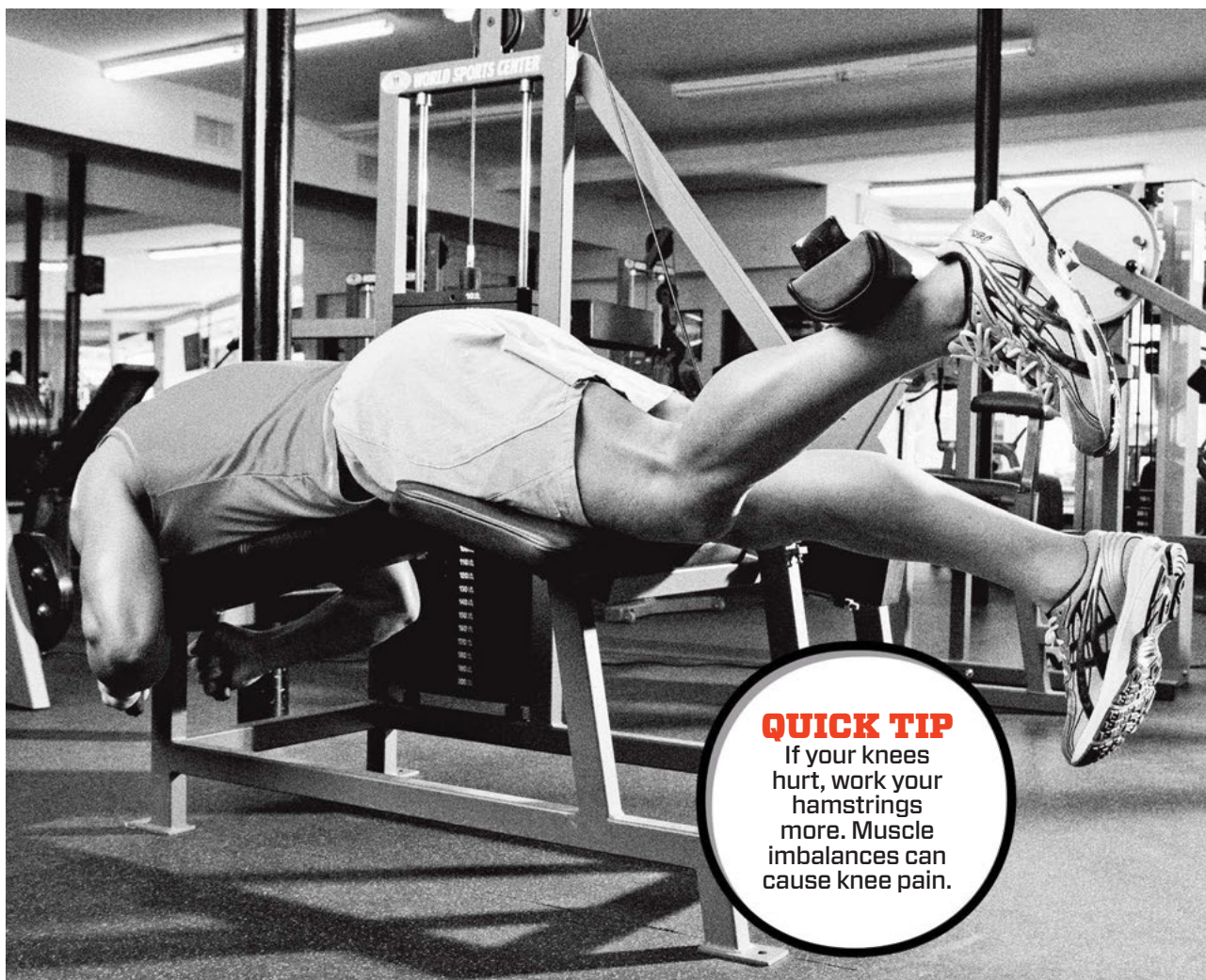
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Work Around It

Carlos G. from Los Angeles sent us his leg workout and said his knees hurt. Here's how we helped him out. **BY SEAN HYSON, C.S.C.S.**



QUICK TIP

If your knees hurt, work your hamstrings more. Muscle imbalances can cause knee pain.

CARLOS' OLD WORKOUT

EXERCISE	SETS	REPS
Squat	3	10
Lunge	4	8
Leg Extension	3	12
Leg Curl	3	15

W&F RATINGS: **C**

OUR ADVICE

Switch to box squats. They force you to sit back more (onto the box), developing good squatting mechanics and putting the stress of the movement on your hips—where it should be—rather than on your knees. Instead of lunges, do reverse lunges, where you step backward to lower yourself. This helps keep your front shin vertical when lunging, preventing knee strain.

PAINLESS LEG TRAINING NEW WORKOUT

EXERCISE	SETS	REPS
Box Squat	3	10
Reverse Lunge	4	12
Romanian Deadlift	3	15
▲ Leg Curl	3	15

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Hang Time

Try this nonstop circuit designed to tighten up your whole body.

WHAT IT IS

A four-station body-weight circuit designed by L.A.-based celebrity trainer Andy McDermott. You start with two stabilised exercises performed under control: hanging leg raises and walking lunges, then finish with a pair of explosive moves: clapping pushups and squat jumps. Try to set a manageable pace.

WHY IT WORKS

The stabilised exercises serve as active recovery from the explosive work. Since you're using a different leg-raise variation on each set, you'll hit your abs and obliques from a variety of angles. This is total-body HIIT that will have the sweat pouring off you—and leave your entire core sore the next day.

THE HANG TIME WORKOUT

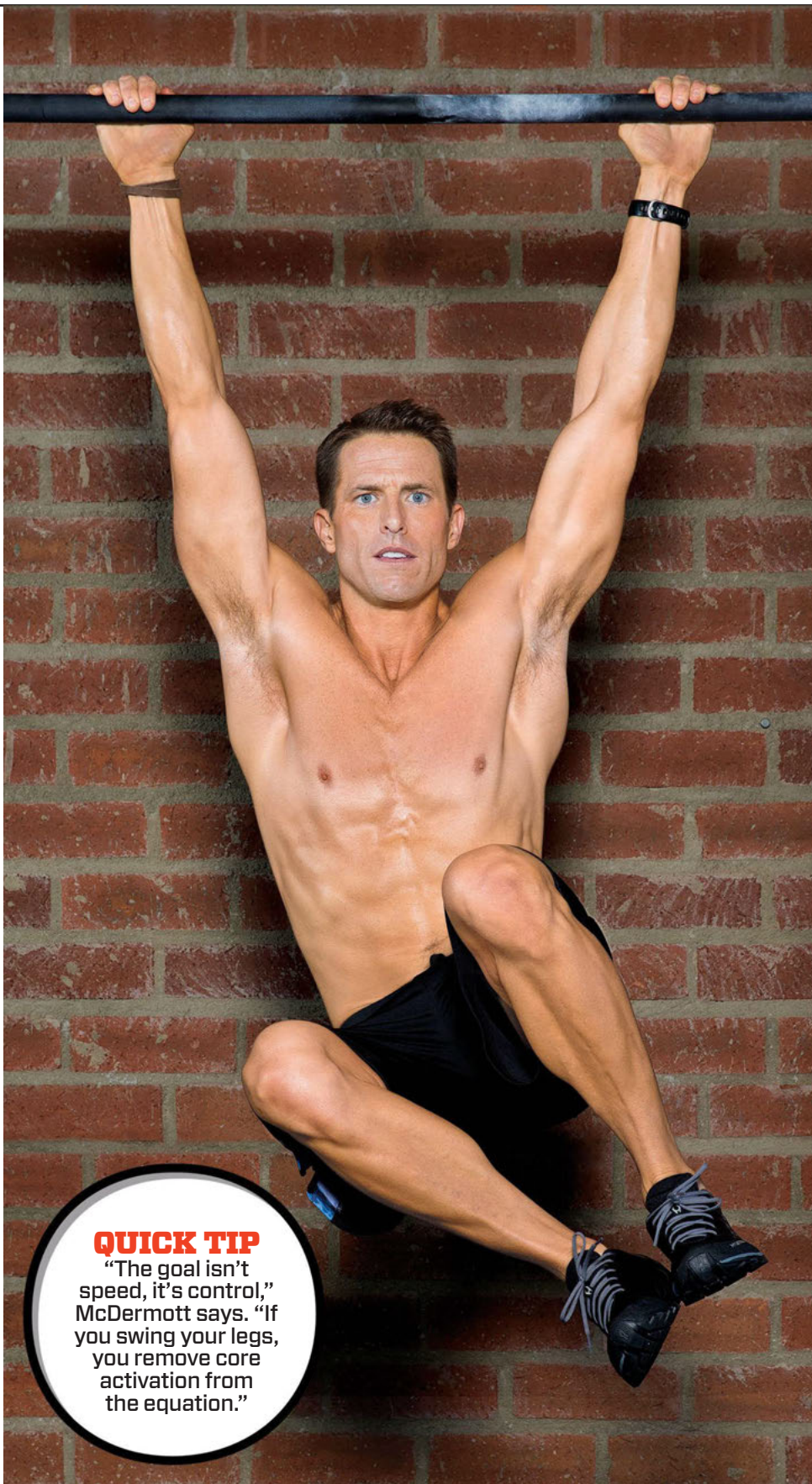
DIRECTIONS: Set a timer for 10 minutes and do the following circuit nonstop.

EXERCISE	REPS
▶ Hanging Leg Raise*	10
Walking Lunge	10 each leg
Clapping Pushup	5-10**
Squat Jump	30 sec.

*Do straight raises the first set, followed by oblique raises (shown) for each side.

**Start with 10. Work down as you fatigue.

ANDY McDERMOTT is a fitness coach in Hollywood. For free training advice, follow him on Facebook: [AndyMcDermottFitness](#), Instagram: [@andymcdermottfitness](#), and Twitter: [@andymcd23](#)



QUICK TIP

"The goal isn't speed, it's control," McDermott says. "If you swing your legs, you remove core activation from the equation."

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EAT

WHAT'S IN THE FRIDGE THIS MONTH

The Power of Citrus

Grapefruit and other citrus fruits can have a major positive impact on your winter diet.

ORANGES, tangerines, and grapefruits: Turns out they're much more than an easy gift basket. Aside from the obvious benefits of vitamin C and fibre, citrus has been linked to a reduced risk of stroke, an increase in fat loss, and inhibited growth of cancerous tumours. Grapefruit, in particular has been shown to prevent asthma, help you stay regular, and promote healthier skin. It contains potassium, lycopene, and choline that can help lower blood pressure and triglyceride levels.

Grapefruits are also composed of 91% water, and contain a payload of electrolytes that make them an ideal pre- and post-workout snack to hydrate and stay energised. Moreover,

mid-winter is the absolute best time to eat grapefruit and other citrus. A study at the University of Agriculture showed that grapefruit's antioxidant and anti-inflammatory phytochemicals are most highly concentrated when the fruit is harvested then.



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Drink Up

Hydration is crucial to bodily processes—even when you're not sweating.



I know drinking water is important, but I don't want to drink a lot when it's cold out. How much do I need?

A: **WHETHER** you're active or not, water is one nutrient you really have to make sure you're getting enough of in your diet, in summer and winter.

Josh Axe, C.N.S., a nutritionist and consultant to the U.S. Olympic swim team, recommends that "people take their body weight, cut that in half, and drink the equivalent number in ounces daily." Other factors that impact how much water you should drink include body size, activity level, climate, diet, other beverage intake, and medical condition.

Adequate water intake is important for a host of body processes, including muscular activity, temperature regulation, and the transporting of oxygen to our cells, and using this formula may help you dial in your requirements, but exactly how much water you need in order to perform at your best when you're exercising has been

hotly debated in recent years. Previous guidelines suggested proactively drinking more water than you're thirsty for to stave off a possible performance-sapping deficit. But a 2013 *British Journal of Sports Medicine* analysis of 15 published studies suggests that simply drinking to satisfy thirst could be the best way for the active person to stay ideally hydrated.

You can also increase your fluid intake by eating foods high in water content. On the fruit side, watermelon and strawberries hover around 92% water per volume, grapefruit is at 91, cantaloupe is 90, and pineapple, cranberries, oranges, and raspberries come in at 87%. Watery cucumbers and lettuce are tops for the veggies at 96%, with courgettes, radishes, tomatoes, cabbage, and celery around 94%.

Fiji Water provided some information for this article.

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MAKES 6 SERVINGS

3	pears
3	tbsp stevia
$\frac{1}{4}$	tsp ground cinnamon
30	g dried cranberries
65	g low-fat granola
80	ml apple juice
115	g low-fat vanilla frozen yogurt, divided into 6 scoops

1. Preheat oven to 180°C/Gas Mark 4.
2. Peel pears and cut in half lengthwise. Scoop out core with a spoon. Place in a glass casserole dish, cut-side up.
3. Mix stevia and cinnamon. Sprinkle on top of pears.
4. Combine dried cranberries and granola in a mixing bowl. Set aside.
5. Pour apple juice into pan with pears.
6. Place pan in oven and bake for 10 minutes. Remove pan and mound the cranberry-granola mixture into the holes created by the missing cores. Return pan to oven and bake for an additional 10 minutes.
7. Remove pan and allow to sit for 5 minutes. Plate pears and drizzle with remaining juice. Serve with frozen yogurt.

NUTRITION PER SERVING

140 CALORIES | 3g PROTEIN | 25g CARBS | 1g FAT

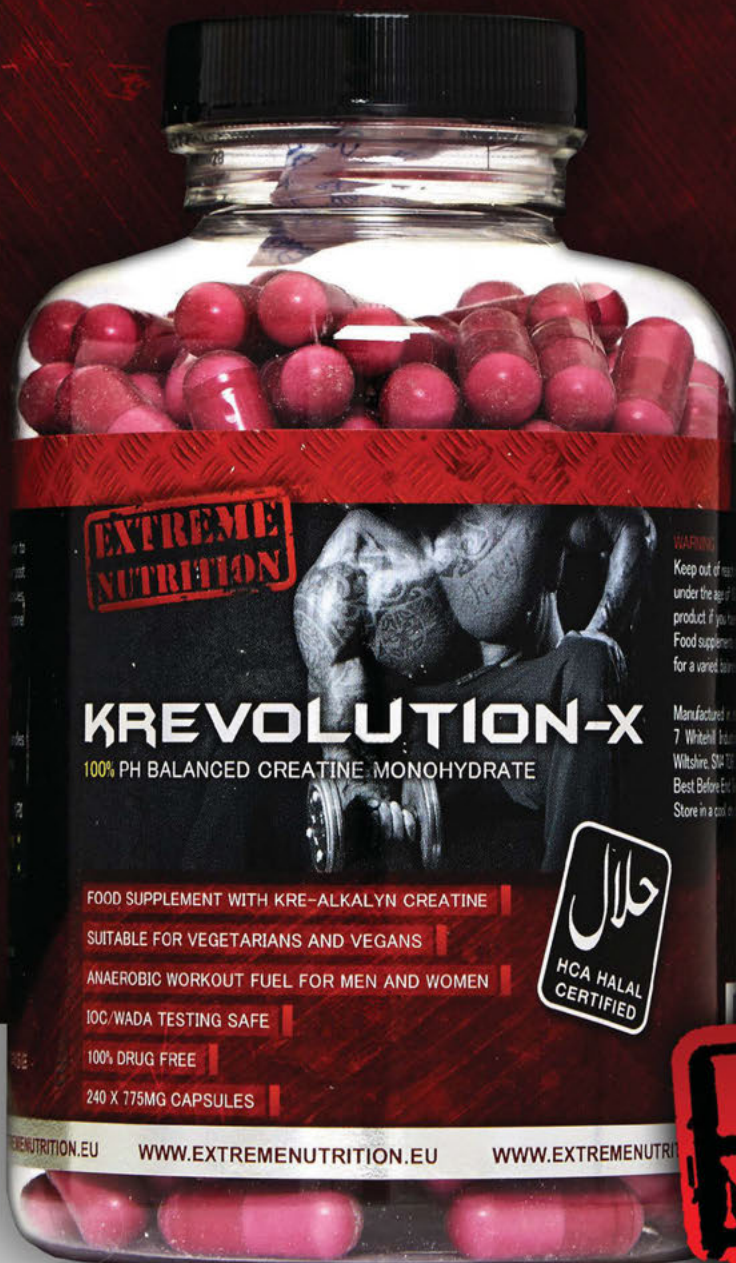


DID YOU KNOW?

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BETTERBODIES

Peppers

Nutritious and versatile, they're much more than a salad topping.

BY DEBI ZVI, R.D.N., C.D.E.

1 | COOK AN EGG-IN-A-HOLE

Cut a pepper into 1.25-cm rings. Remove ribs and seeds. Heat oil in a pan on medium. Sauté 2 rings for 1 min. each side. Crack 1 egg into each ring. Cover pan. Cook 2-3 min. Top with salt and pepper to taste.

2 | MIX A BELL PEPPER SLAW

Mix 100 g julienned peppers, 70 g shredded cabbage, 125 g grated carrot, 150 g cooked edamame with 1 tbsp chopped coriander leaves. Add mixture of 2 tbsp each peanut butter and rice vinegar. Add red pepper flakes.

3 | MAKE PICKLED PEPPERS

Boil 480 ml white wine vinegar, 100 g sugar, 2 tbsp water, 2 cloves sliced garlic, and 1 tsp salt. Remove tops and seeds from 450 g peppers, add peppers to kilner jar, pour in liquid, cover. When jar is room temp, chill 3 days and serve.

4 | WHIP UP A STIR-FRY

In an oiled wok on medium heat, combine 100 g each red and yellow peppers and 50 g each broccoli, carrot, snap peas, and water chestnuts. Cook 2-3 min. Add 20 prawns, 2 tbsp teriyaki sauce, and 1 tbsp sriracha sauce; cook 5 min.

5 | BAKE STUFFED PEPPERS

Preheat oven to 200°C/Gas Mark 6. Cook 450 g minced turkey until brown in a pan. Stir in 525 g tomato and herb pasta sauce and 80 g swiss chard; cook until chard wilts. Half 3 peppers lengthwise, remove seeds, and stuff with turkey. Place in baking dish, cover, bake for 35 min.

VITAMIN BOOST

One large raw red pepper has 209 mg vitamin C, which is more than the amount in a large orange.



WOLFGANG USBECK/STOCKFOTO

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15-MINUTE FEAST

DID YOU KNOW?

Tryptophan in turkey doesn't necessarily make you sleepy but overeating will.

A Stronger Soup

Leftover turkey can be made into a high-protein soup that serves up big gains any winter afternoon. **BY SEAN HYSON, C.S.C.S.**

TURKEY WITH RICE SOUP

YIELDS 2 SERVINGS

- 1.5 litres low-sodium chicken stock
- 4 small carrots, sliced 6 cm thick
- 100 g uncooked white rice
- 200 g shredded roast turkey
- 2 tbsp chopped fresh dill

1. Bring the chicken stock to a boil in a large saucepan. Add the carrots and rice and simmer until tender, about 12 to 15 minutes.
2. Stir in turkey and dill and simmer until heated through, about 2 minutes.

NUTRITION PER SERVING

333	40g	28g	6g
CALORIES	PROTEIN	CARBS	FAT

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SCHOOL OF THE ROCK

From troubled delinquent to beloved superstar, **Dwayne Johnson** has forged his own unique success story by way of lessons learned in the gym.

BY SHAWN PERINE /// PHOTOGRAPHS BY PER BERNAL

FIRST, THERE'S THE GYM.

Always, the gym. Because the gym is his anchor and it's his sanctuary, and because it helps him to remember, and because it helps him to forget. The gym has been his home when he was homeless, and it is today, when he's far from it. It's seen him through his many successes and served as an outlet for frustration over his failures. Above all, the gym has provided him sacrosanct life lessons, learned in his youth, but still applied to his adult life.

This is a story about Dwayne Johnson, but it's not about his global successes as a WWE legend and Hollywood's most bankable star. It's also not a first-person account of an interview at a chic restaurant that details his attire and interactions with the waiter. Let other magazines tell that story.

This is the story of his formative years, and some of the lessons he learned during them, many in dusty gyms across the country, acquired by way of iron and sweat and his holiest of grails, hard work. Because, as Dwayne will tell you himself, it is these very things that have made him the man he is today.

Here are seven young Dwayne Johnson teaching moments. Seven, because that's how many dollars he had in his pocket when, at 23, he was cut from the Canadian Football League and found himself forced to start his life over from scratch, this time as a professional wrestler. Seven, because so significant is the number to him that he named his company Seven Bucks Productions. And seven because, of course, the issue you now hold marks our Man of the Century's seventh *Muscle & Fitness* cover.



Work Hard. Always.

DWAYNE JOHNSON WAS 13 years old when he had his first weight workout, but he'd been accompanying his dad, legendary wrestler Rocky Johnson, to the gym since he was much younger than that—maybe 5 or 6. Some of his oldest memories are triggered by the smell of sweat and rust and chalk, and of the hollow clanging sound 20.5-kg plates make when they're slid onto a cold-rolled steel bar and slapped against one another. Although he wasn't allowed to touch the weights at that time, it was enough for him just to sit quietly on a bench and watch his father pound the iron.

"Every morning my dad was up at 5 a.m. He'd have his coffee then hit the gym, regardless of whether he was at home or on the road."

More often than not, Rocky Johnson was on the road. Much of the time young Dwayne would stay home with his mother, Ata. When Rocky was home, though, Dwayne would savour the chance to accompany him to the gym. For Rocky it was a form of babysitting. For Dwayne, it was a chance to enter a wondrous world, full of men performing seemingly impos-

sible tasks—like a bunch of real-life Hercules.

Back then, going to a gym wasn't "a thing," at least not like it is today. There wasn't towel service and scented lotions in the locker rooms, and no TV at every cardio station. Hell, there weren't even cardio stations. And if you wanted a personal trainer, you'd simply pay the biggest guy in the gym to show you what he did to get that way. What gyms did have back then, though, was lots of living examples of grit and drive and, most significantly to present-day Dwayne Johnson, hard work.

"Other dads took their kids to the playground. Mine took me to the gym, and the gyms he took me to were very hardcore. Weight rooms, really. But it was important bonding time for us, and it was there that I learned at a very young age that there's no substitute for hard work.

"My dad and the other wrestlers would train for hours and hours every morning, just like all of the top bodybuilding stars of the day—Arnold Schwarzenegger, Franco Columbu, Frank Zane, Albert Beckles. It was all he knew, and it was all I knew back then. And it worked."





2

Persistence Pays.

WHEN HE WAS 8 years old, Dwayne's parents allowed him to participate in sports—baseball, soccer, martial arts, gymnastics. Sometimes his dad would wrestle with him, bending his wiry frame into knots, toughening him up for the hard knocks to come.

Dwayne was dying to lift weights like his dad, but he'd have to give it a few more years. "They used to say that if you started lifting too young you'd stunt your growth, so my dad made me wait till I was a teenager."

Then, at long last, the day came when Dwayne could finally step into a gym and do something other than sit around and watch the adults have all the fun. He was 13, and it was a Saturday, and he was ready to put all his years of fascinated observation to use. The bench press was an obvious first choice.

Rocky started his son out with an empty bar. The kid handled it easily—none of the shaking you'd expect from a newbie—so they load a pair of 11s onto it. No problem. The kid makes his old man, and himself, proud.

"So my dad says, 'All right! Are you ready to go for the 20s?' I was like, 'Yeah, let's do it!'"

"So we put a 20 on each side, and I get down on the bench with him spotting me. He counts off, 'One, two, three!' and he lifts the bar off the supports...and I get buried. I was completely embarrassed. I'll never forget that feeling. Buried with 61 kilos!"

Dwayne became obsessed with the idea of moving that weight, and soon. The quicker he could exorcise the demon of failure, the better. So every day that week he could be found either in the gym training or on the floor of his apartment doing pushups. He would apply the same work ethic he watched his dad and so many other wrestlers and bodybuilders exhibit for the past seven or eight years, and be damned if he didn't lift that weight!

The following Saturday he joined his dad at the gym, determined to push that bar off his chest. They went through typical warmup sets, then loaded a pair of 20s onto that same bar that had crushed Dwayne seven days earlier. He got back on the bench as Rocky positioned himself to spot, and on the count of three, Dwayne unracked the weight, lowered it to his chest, and forcefully pushed it back up to arm's length.

"And that's why I don't need therapy today."



3

Have a Sense of Purpose.

DWAYNE HAD SEEN his mother cry before, but not like this. They had just come home to an eviction notice and a padlock on the door of their tiny bedsit in Honolulu, when all the years of struggling to make ends meet as the wife of an itinerant professional wrestler seemed to come crashing down upon Ata Johnson, and she wept as hard as she ever had. It was then and there that 14-year-old Dwayne Douglas Johnson made a vow to himself.

“I was determined to take control of the situation. I would never be homeless again, and I’d never, ever see my mom cry like that again.”

Of course, at 14, Johnson couldn’t get a job that would pay the rent. Yet with his dad wrestling in Tennessee, he was the de facto man of the house and knew that he had to do something—anything—to help turn his mother’s situation around. Then he had an epiphany.

“It occurred to me that all of the men I knew who had achieved success were all men of great physical stature. And I knew that they all got that way through sweat equity—putting callouses on their hands. So in my mind, the key was simple: I’d

continue going to the gym and work harder than before, then I’d follow their path to greatness.”

To that point, Dwayne had been training two days a week, fitting workouts into a student-athlete’s schedule. But now he’d have to take his training more seriously. He would have to build himself up, just as his dad had, just as the bodybuilders whose images he gazed upon in wonder in *M&F* had. If he truly wanted to protect his mother and himself from ever being evicted again, he reasoned he would have to double down on his gym time.

And so he did, training harder than ever, building himself into manhood by way of heavy metal and calloused hands. And while in retrospect he knows that lifting weights and paying rent are unconnected in even a tangential way, the determination and sense of purpose that grew out of that event would continue to serve him to this day. His workouts took on a new level of intention from that moment on.

“In looking back I realise how seminal a moment that was in my life.”





DWAYNE JOHNSON



4

Without Control, Strength Can Become Weakness.

BETWEEN THE AGES of 14 and 15, training went well for Dwayne. By the time he entered high school he had grown to a towering 193 inches and tipped the Toledo at 102

kg—much of it hard-earned muscle. This gave him a healthy dose of self-confidence—and even a degree of arrogance. But for all the focus and discipline he showed in the

gym, his unstable home life left him directionless outside of it.

“I was running around and getting in trouble a lot. I was arrested multiple times for a multitude of things, from fighting to a theft ring to check fraud to more fighting. I did a lot of stupid shit and struggled to stay on the right path.”

Then, when he was 15, came what he calls his “trifecta”—a trio of cataclysmic screwups that brought him to the brink of a failed life.

“First, I got arrested. My parents came down to the police station and picked me up, and I recognised that, despite the fact that we were living paycheck to paycheck, I was the biggest source of their stress. And in that moment I thought, ‘I don’t ever want to disappoint my parents again.’ So I said to myself that I was going to stop getting arrested.”

He managed that, yet couldn’t keep out of trouble. The next day he was expelled for getting in a fight and knocking out the other kid.

When he returned to school two weeks later, he found a new way to be classified as a “troubled youth.” Deciding that the students’ bathroom at Freedom High School in Bethlehem, Pennsylvania, wasn’t good enough for him, he did his business in the teachers’ bathroom.

“In walks this teacher, who takes one look at me and says, ‘Hey, you can’t be in here. You’ve gotta go.’ Well, I was a complete dick to him. I’m washing my hands, and I look over my shoulder and say, ‘Yeah, in a second,’ and I continue washing my hands. Then he pounds the door with his fist and yells, ‘You gotta get the fuck out of here, now!’ And what do I do? I dry my hands and brush past him like a real asshole punk kid. And he’s steaming.”

“Here was a guy who was absolutely willing to fight me, as big as I was, not because he wanted to hurt me, but because he cared.”



5

See the Signs Around You.

THAT NIGHT, WHEN he went home, Dwayne felt pangs of guilt running through him like the pain from a deadlifting session gone wrong. As opposed to the eight or nine times he'd been arrested and his multiple expulsions from school, this time he couldn't shake the feeling that if he didn't take responsibility for his actions and turn things around quickly he might not get the chance to turn them around at all.

"So the very next day I went back to school to look for him. I found out where he was teaching and went to his classroom, walked right up to him, and said, 'Hey, I just want to apologise for the way I acted yesterday. I'm sorry.' I stuck my hand out to shake his, and he looked at my hand, then he looked at me, and he took my hand and said, 'I appreciate that.' And he held on to my hand and said, 'I want you to play football for me.' So I said, 'OK.' And that was it."

Jody Cwik would turn out to be much more than a football coach. He would become a key figure in Dwayne's development, believing in him even when he didn't believe in himself. Football would provide

Dwayne with a positive outlet for his frustrations and aggression and a renewed sense of focus. As to why he felt compelled to apologise to Cwik, Dwayne is philosophical.

"There are signs around us all the time, and a lot of the time we don't see them, but sometimes we do, and those become the greatest lessons."



SOCIAL MEDIA

"Social media is such an important asset to my career," Dwayne says. "I came to it late—in 2011—because I didn't quite understand the power of it. I initially thought it was about showing people what you ate that day or where you travelled to. But it's more than that. It's a way of communicating with fans that no other type of media can provide. It's a significant part of one of my most important relationships, which is with the fans."

"I enjoy all forms of social media, but I find that Instagram is really best for storytelling, because of its visual aspect. Plus, I have long-ass arms, which are great for selfies."





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6

When in Doubt, Go Back to Basics.

UNDER THE WATCHFUL eye of coach Cwik, Dwayne steadily improved, both as a student and as an athlete. By the time he was a high school senior he was ranked one of the top 10 football defensive tackles in the nation and was offered a scholarship to the University of Miami. He jumped on the opportunity like a loose ball.

At Miami, his combination of size, strength, athleticism, and work ethic made Dwayne a standout from the moment he first stepped onto the field. Finally, at 18, and with a lifetime worth of mistakes and heartaches behind him, Dwayne Johnson was cooking with gas.

"I was ballin'. I was going to be the only freshman to play. Then, on the very last day of practise, I completely dislocated my shoulder. It was an awful dislocation. That night I was having a complete reconstruction of my shoulder. I went from being on top of the world to in the dumps at 18."

Dwayne quickly fell into a depression. He stopped going to class. Then, without taking any of his midterm exams, he just went home.

One day he got a call from Miami's head coach, Dennis Erickson.

"He says to me, 'I'd like you to come back to school early.' I ask, 'How early?' and he says, 'In a couple of days.'"

"So I come back to school, and he was so pissed off. He and my defensive line coach charged hard on me. They grilled me. 'How can you do this? You embarrassed us! You embarrassed the team! You were in a leadership position, and now you have a 0.7 GPA because you fucked off and left!'"

Then came a challenge that would test Dwayne's mettle as

much as any workout he'd ever had.

"They said, 'Here's what's gonna happen. From now on, you are under academic probation. You are on the verge of having your scholarship pulled. You will attend every class. Then, when you're done with class, you will go straight to the gym and attend every team meeting, and you will sit on the sidelines at every practice. But here's the key: In order to get into the football building, you will have to get signatures from every one of your professors every day saying that you attended class.'"

Even counting the nine arrests, and all his other youthful "indiscretions," this represented a new low for Dwayne. He was embarrassed and remorseful. He knew that if he were to lose his scholarship he'd be out of school: His parents simply couldn't afford to pay his tuition.

And so, Dwayne made the decision to travel the hard road once more. By this point it was well-worn. He didn't need directions. He would simply call upon the same principles that powered him through his most gruelling training sessions: focus, persistence, and of course, lots of hard work.

"I did everything they told me to do and turned it around. Eventually I became the academic captain, and by my junior year I was pre-season All-America on a couple of lists. I did what had to be done."



ANCHOR, MAN

"Training is my anchor every day, regardless of whether I'm on a set or at home," Dwayne says. "Yes, I'm busy, but we're all busy. We're all on the treadmill of life, and it requires balance, but for me, training is a key part of that balance."

"Typically, I get up at 3:45 in the morning, do my cardio, have my breakfast, then I'll go hit the iron, then go to the movie set. If I can get those things done and get to the set at 7, 8 o'clock, then I can work for the next 12, 14, 16 hours. I'm good. I'm like a cow—I just need water. It's my anchor. At that time I'm by myself—nobody else is awake. So I do my work, e-mails, and focus."





Failure Is a Virtue.

OTHERS IN DWAYNE JOHNSON'S position might choose to sweep their history under the rug, ashamed of the mess and how it might appear, but not Dwayne. To him, there's a sublime beauty in life's struggles, and he knows that just as he owes his mountainous biceps and barn-door-wide shoulders to years of strain and pain, so, too, are his successes made possible by earlier losses.

"I always want to remind people of my past, because it is directly responsible for who I am today. It's undeniable that I'm a product of those tough times. I am a product of the most challenging times of my life. And that's the value of them. They shape you and they mould you, and so, I was formed by these lessons at a very young age."

One experience in particular has left a lasting impact, and for as painful a memory as it is, he keeps it in his thoughts at all times.

"As crazy as it may sound, in my mind, I'm always a week away from getting evicted, and that's what keeps me motivated, not the material things. You can strip them all away—strip them away today. Strip away the glitz and the glamour of Hollywood.

Strip away the red carpet, the big box-office global hits, the cars, the homes. Strip everything away to me going back to being dead broke, evicted with seven bucks in my pocket, and you know what? The one thing that's absolutely guaranteed is that I will still be training when the sun comes up."

Training, and continuing to learn the lessons that come from iron and sweat and lots of good, old-fashioned hard work.



KEEP ROCKIN'

Get The Rock's full workout plan, diet, and an exclusive photo gallery at muscleandfitness.com/rock



MAN OF THE CENTURY

Being *Muscle & Fitness* Man of the Century is an honour. "It's a privilege, considering its history," Dwayne says. "For 75 years *M&F* has featured the best of the best in bodybuilding, fitness, sports, and entertainment on its cover, and it's inspired millions upon millions of people to take charge of their lives and get fit and strong. So I'm proud, but I'm also incredibly grateful. You know, I've had the privilege to be on the covers of every major magazine in the world—*Rolling Stone*, *GQ*, *Details*, *Esquire*, *Men's Health*, and they're all fantastic. But at my core is hard work and training and sweat equity, so to be Man of the Century for *Muscle & Fitness* is by far the greatest.

"It's my most important cover ever, because of my personal history with the magazine. When I was a kid I aspired to be just like the guys on the cover of *Muscle & Fitness*, not just because of their success, but because that success came about through hard work, which is something that's hardwired into my DNA." **M&F**

THE MOTC ROUTINE ARMS

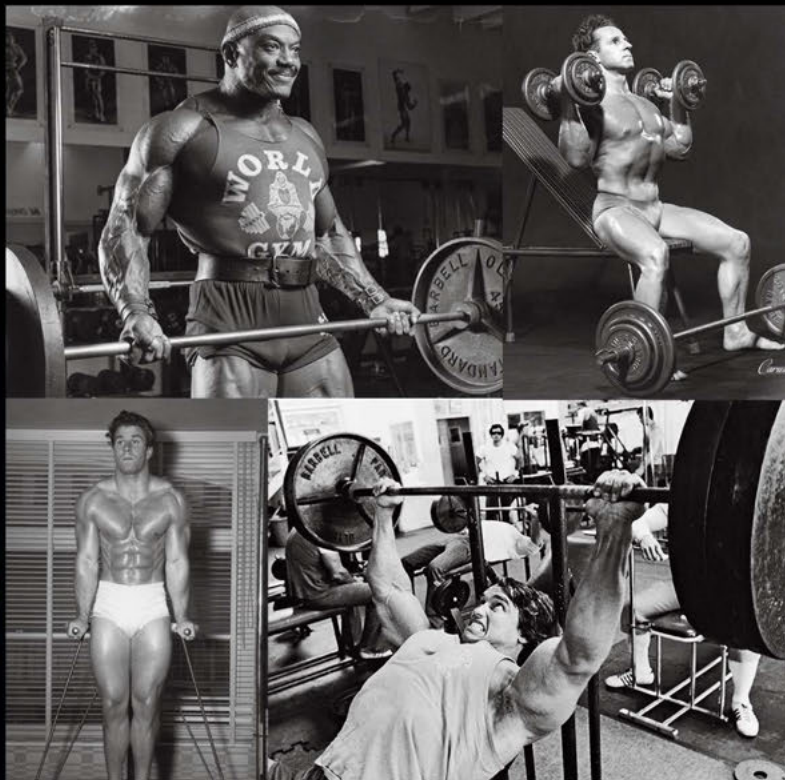
EXERCISE	SETS	REPS
Standing Barbell Curl	7*	8-12
Rope Pushdown**	3	8-12
Low Cable Rope Curl†	3	8-12
Dip	3	8-12
Spider Curl	3	8-12
Close-grip Bench Press	3	8-12
Preacher Curl††		
Reverse Curl	4	8-12
Overhead Triceps Press††	7	8-12

* For FST-7 sets, DJ takes only 30 to 45 seconds between sets. Otherwise, he rests about 90 seconds.

** Spreading hands away from each other at the bottom.

† Keeping elbows in front of his body, rather than to the sides.

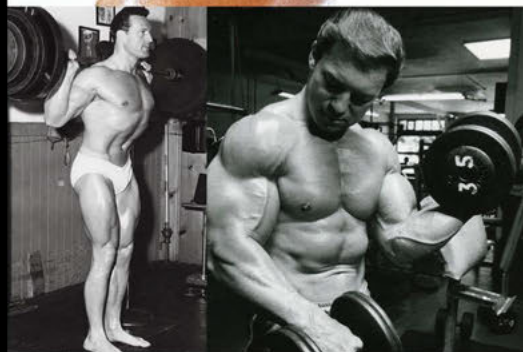
†† Using a cambered bar.



75 YEARS OF M&F WISDOM

As we wrap our 75th anniversary celebration this month, we combed our archives for the best pieces of advice that hold up today. From the 1940s to the 2000s we've kept our readers ahead of the curve. Here, we present the 75 best pieces of advice we've ever offered, from Day 1 in 1940 to today.

BY THE EDITORS OF M&F



Who's selling your favourite supplements the cheapest today?



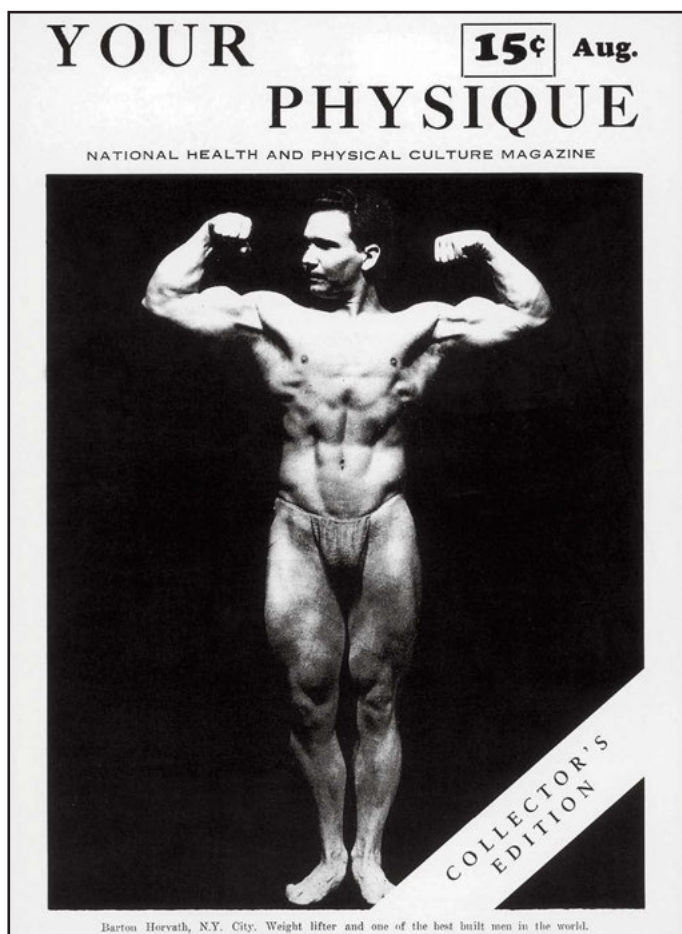
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The supplement comparison website.



Barton Horvath, N.Y. City. Weight lifter and one of the best built men in the world.

1941—OLYMPIC ROOTS

Dating back to the March 1941 issue of *Your Physique*, we've preached the overall strength and aesthetic benefits of Olympic weightlifting. While these lifts fell out of favour, they reemerged with the popularity of CrossFit.



STRONGMAN

In every issue in 1954, we published "Strongman Stunts You Can Do." Strongman training, like Olympic lifting, has enjoyed a resurgence, though you're now more likely to see it filed under "functional" training. In recent years, we've continued to extoll the benefits of Atlas stone lifts, which columnist Rob Orlando considers indispensable for building strength everywhere.



KEEP ON PRESSING

In Jan. 1947, we published an article on the benefits of overhead pressing that holds up today; it's perfect for building the delts and tri's and even developing core strength.



FINISHERS

Weider's Compound-Set Principle supersetted the same muscle to instigate pump. Today, lifters use this to "finish" a muscle.

PULLUP—AND HOLD

In Sept. 1959, we published "The Prone Chin." Today, we just call that a pullup, but the article's advice is sound: to hold the peak position of a pullup for a few seconds to force both your lats and biceps to grow.

BEFORE IT WAS COOL

Natural Energy

In the 1940s, less was known about table sugar's negative health impact, but we still steered readers toward natural sweeteners like honey, which is also a cough suppressant and today a top pick for endurance racers.

Smoking Kills

Joe Weider wrote "Don't Be a Cigarette Slave" in August 1944 and "Do Cigarettes Cause Cancer?" in Dec. 1947. This, at a time when doctors recommended cigarettes as a stress reliever. Today, tobacco accounts for 20% of cancer deaths worldwide.

The Bent Press

An oldie but goodie: Between 1948 and 1957 we frequently recommended the bent press: Start with a dumbbell on one shoulder, bend to the opposite side, and press the weight up with one hand. It's a great way to build shoulder and core strength.

The Original Weider Principle

Your Physique introduced a training technique called supersets for the first time in 1951. Today, you'd be hard-pressed to find an athlete anywhere in the world who hasn't used them to make workouts more intense and efficient.

Use the Force

Ever have your training partner help you finish a heavy set after you've hit failure? The benefits of going just a bit beyond your limits—increased pump and hormone release—were first noted in 1952 in *Your Physique*.

Isolate

Preacher curls, rope pressdowns, cable crossovers, and other isolation moves owe much of their immense popularity to the introduction of this principle in March 1952.

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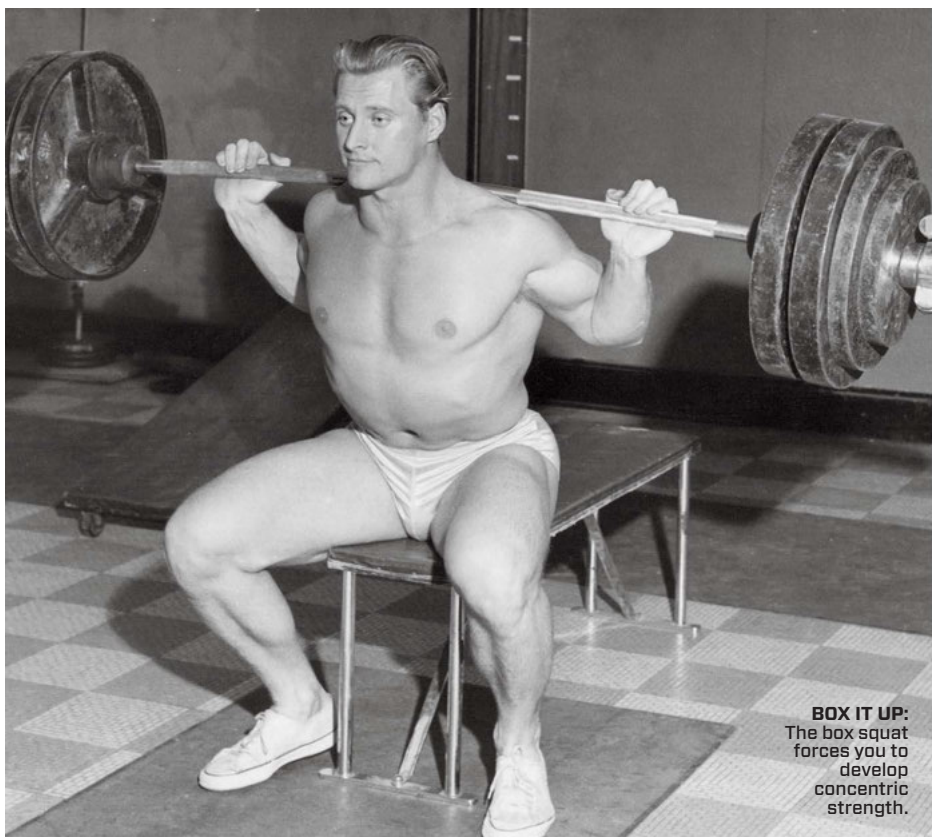
Our whey protein formulas do not use heat, harsh acids, and salt. Instead, a cold-pressed microfiltration process is used to produce the ultra-pure whey protein isolate found in every scoop of Platinum 100% Whey. The protein is so pure, that the formula mixes instantly in a shaker cup or even a glass. And just as important as quality and purity is taste. We worked hard to produce a taste profile that's beyond good. Upgrade today to our new best-in-class!



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BOX IT UP:
The box squat forces you to develop concentric strength.

USE THE POWER OF THE BELL

Based on the three *Muscle Builder* articles about kettlebell training between 1952 and 1959, one of which was **“TRY KETTLEBELLS FOR SUPREME SCULPTURE OF THE TORSO,”** old-time lifters knew what bells could do. One 2014 *Journal of Strength Conditioning* study found two-handed swings coupled with sumo deadlifts provided more of a cardiovascular workout than hitting the treadmill. Widely credited with introducing the West to kettlebells, strength coach Pavel Tsatsouline recently shared his top tip for the KB overhead press: “Contract your abs, clench your glues, and use a crushing grip.”

DO BOX SQUATS

The box squat was a staple of this magazine during its early days. By squatting onto a box, you eliminate the rebound effect of the free squat, in which you can “bounce” out of the hole by quickly changing direction. The box squat (using a box or bench, as shown) forces you to come to a complete stop at depth and generate all your own power out of the hole. Powerlifting legend **LOUIE SIMMONS** actually learned the box squat from *M&F* and spread it to the powerlifting community.



COURTESY OF WEIDER HEALTH & FITNESS (2); MARIUS BUGE (KETTLEBELL)

BEFORE IT WAS COOL

Don't Forget to Flush

Muscle flushing, or doing multiple exercises per body part to trigger maximum hypertrophy, was first reported by Weider in 1953 and remains a staple today.

That's So Dip

The dip was the “Exercise of the Month” in Jan. 1955. Today, it remains one of the most effective exercises for building the arms, chest, shoulders, and core. For maximum contraction in your pectorals, lean forward as you dip.

Home Sweet Home

At-home workouts have been endorsed since our 1954 issue. Then, it was “deep knee bends.” Today, we offer body-weight workouts you can do anywhere. Check out Andy McDermott's killer circuit this issue.

Partner Up

If you train with someone else—and especially if you train with someone who's stronger than you—you're going to work out much harder. It has evolved today, but the truth of this statement is the basis for all group fitness classes.

Powerbuild

Start heavy, finish light. Josh Bryant wrote about powerbuilding for us in Nov. 2014, echoing a Weider idea from the '50s. Start your next back workout with four heavy sets for four reps, then lighten up with other accessory moves for 10 to 15 reps.

Squeeze at the top

The Peak Contraction Principle says to squeeze the muscle being trained at the top of a rep for one to two seconds to apply max tension. Try it on every isolation move you do today.

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BEFORE IT WAS COOL

Tweak Tempo and TUT

The Weider Superspeed Principle wasn't airtight. However, the suggestion to tinker with tempos and Time Under Tension to maximally fatigue muscle fibres was ahead of its time.

Supp Up

Articles from the 1960s like "How Supplements Revolutionised My Bodybuilding Programme" did more than move Weider products. They radically changed many lifters' nutrition plans—and their bodies—quickly.

Cheat to Win

Employing cheat reps—using a touch of momentum to squeeze out an extra rep or two—allows you to train beyond failure, overload the muscle, and move past sticking points. Just remember: Use it sparingly.

Just Say No to Plateau

Change your routine consistently and allow your body to determine how much rest you require between training sessions. By 1964, we were encouraging readers to rotate exercises in and out of their programmes and use exercises in which they weren't proficient.

See It to Achieve It

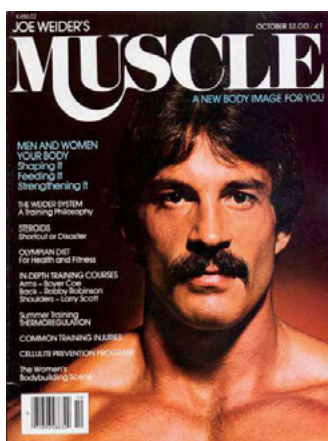
One of Arnold's secrets: visualisation. He explained to us, "When I was burning out concentration curls, I imagined my arm filling the room." Decades later, studies would prove this technique improves performance.

Squat for Size

We take it for granted today that the squat is the king of exercises, but this happened by slow discovery. Heavy squatter Tom Platz even admitted that he got "carried away" with upper-body work before discovering the squat.

Self-Motivate

Selfies weren't a thing in the '70s, but readers were instructed to get before-and-after photographs of themselves to track their training progress.



"HIT" IT HARD

High-intensity training (HIT) gained popularity throughout the 1970s. As it did, *Muscle* covered HIT principles and training, as well as spin-offs such as **MIKE MENTZER's** Heavy Duty. Mentzer's training style called for using heavy weights with lower rep counts while using forced reps, negative reps, and rest-pause. Today, these techniques remain invaluable for gaining size.



GO NEGATIVE

The majority of muscle damage occurs during the eccentric, or negative, portion of the lift. Guys like **Chuck Sipes** found negatives particularly useful, telling us: "I concentrate as much on lowering the bar slowly as the curl itself."

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BEFORE IT WAS COOL

Manage Stress

Unmanaged stress triggers spikes in cortisol, emotional eating, and loss of appetite or motivation, points addressed in a June 1960 article, "Your Greatest Muscle-Building Enemy."

Steroids 101

Educating lifters on the pros and cons, rather than outright demonising anabolic steroids, gave readers the ammo they needed to make an educated decision about why they should steer clear of steroids.

Sleep It Off

In 1970 we said, "Sleep is vital to tissue repair and the restoration of energy depleted by training." Last year, the CDC said insufficient sleep is a public health problem. You won't just hamper your gains, you'll put yourself at increased risk for heart attack and stroke.

Split It

The Weider Split System started with a chest day, a legs day, and so on but evolved to the modern splits of chest/back, bi's/tri's, legs/shoulders by the 1970s. The need for the modern man to get more done in less time made training more efficient.

Work the Whole Core

In Dec. 1979, we quoted Mike Mentzer: "Most bodybuilders spend more than enough time developing rectus abdominis—or the frontal midsection area—while almost totally neglecting the oblique and serratus muscles."

Hone Technique

"Without proper technique—so well practiced it becomes completely automatic—added strength is of little use," we said. Some 50 years later, nothing's changed: Technique trumps weight. Always has, always will.

Isometrics

Most people place emphasis on the concentric and eccentric portions of the rep. But isometric contractions, without movement, provide an entirely different—and powerful—training stimulus.



SLOW DOWN

It's common for beginners to want to go as heavy as possible, but getting big muscle is a marathon, not a sprint. In '79, two-time Mr. Olympia winner **FRANCO COLUMBU** urged against letting the ego get in the way. He said joint soreness and muscle pain are never to be ignored.



TRUST YOUR GUT

The Weider Instinctive Training Principle told lifters to trust their instincts. If you're convinced a different approach will trump conventional wisdom, follow your gut and test it out. **Bill Grant** refined the definition for us: "The single most important thing I gained from the multitudinous training techniques I experimented with is the knowledge of what works best for me."

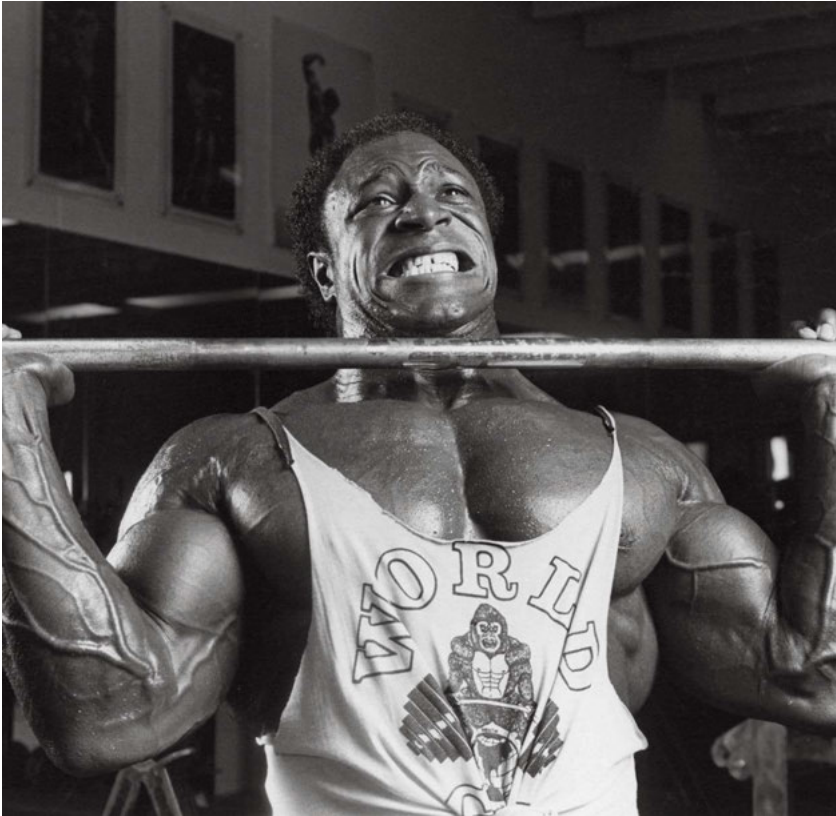
DON'T FEAR FRUIT

Because fruit contains sugar, many weightlifters, then and now, stay away from it. In moderation, however, fresh fruit is a healthy source of fibre, vitamins, micro-nutrients, antioxidants, and phytonutrients. As a pre- or post-workout snack, fruit aids muscle endurance and replenishes glycogen levels.



THIS SPREAD: COURTESY OF WEIDER HEALTH & FITNESS (3); ISTOCKPHOTO

WISDOM FROM EVERY ERA
1980-1999



RELEASE GH WITH COMPOUND LIFTS

The squat, bench, and deadlift do more than get you big and strong—they release HGH, which has an anti-aging effect on the entire body. By the late '80s, we began to herald these previously little-known benefits. Today, we use these lifts as the basis of just about every programme we publish.

BEFORE IT WAS COOL

Women Should Lift

The hormonal differences between men and women make it all but impossible for most women to begin resembling male bodybuilders. Ladies: Lift away!

Young Kids Should Lift

Kids need to drill form and perfect it before adding weight, but we've tried to bust the "stunted growth" myth for 30 years. Today, the UKSCA has specific guidelines.

Simple Cardio

Whether you want to bike, run, or play basketball, cardio is cardio—and fresh air has its own benefits. Moreover, if you keep cardio interesting, you'll do it more often.

Powerlift for Size

Guys who train seriously for the big three—the squat, bench, and deadlift—have a leg up on guys who just train for a pump. A stronger muscle is always a bigger muscle.

Blast It!

Throughout the '80s, we recommended the arm blaster for standing isolation of the biceps and couldn't be happier with its recent (minor) resurgence. It's a lot cheaper than a preacher bench.

Heels Up

Squat with your heels slightly raised—either on a wood plank or on some weight plates—to place more emphasis on quad development. This still works well.

Preload

We've urged the use of creatine since it hit the scene. Along with caffeine and aminos, it's perfectly safe and effective—and a staple of pre-workouts since the '90s.

WORLD'S STRONGEST ADJUSTABLE DUMBBELLS



THE END.

BEFORE IT WAS COOL

Deadlift

By the early '80s, Weider was so convinced of the effectiveness of deadlifting for building muscle all over the body as well as grip strength that he recommended it for everyone, regardless of training goal.

Move to the Music

Back then, a lot of bodybuilders told us that they performed much better when listening to their favourite tunes. Today, we have studies that prove the more beats per minute the tune, the faster your body will want to move.

Rise of the Machines

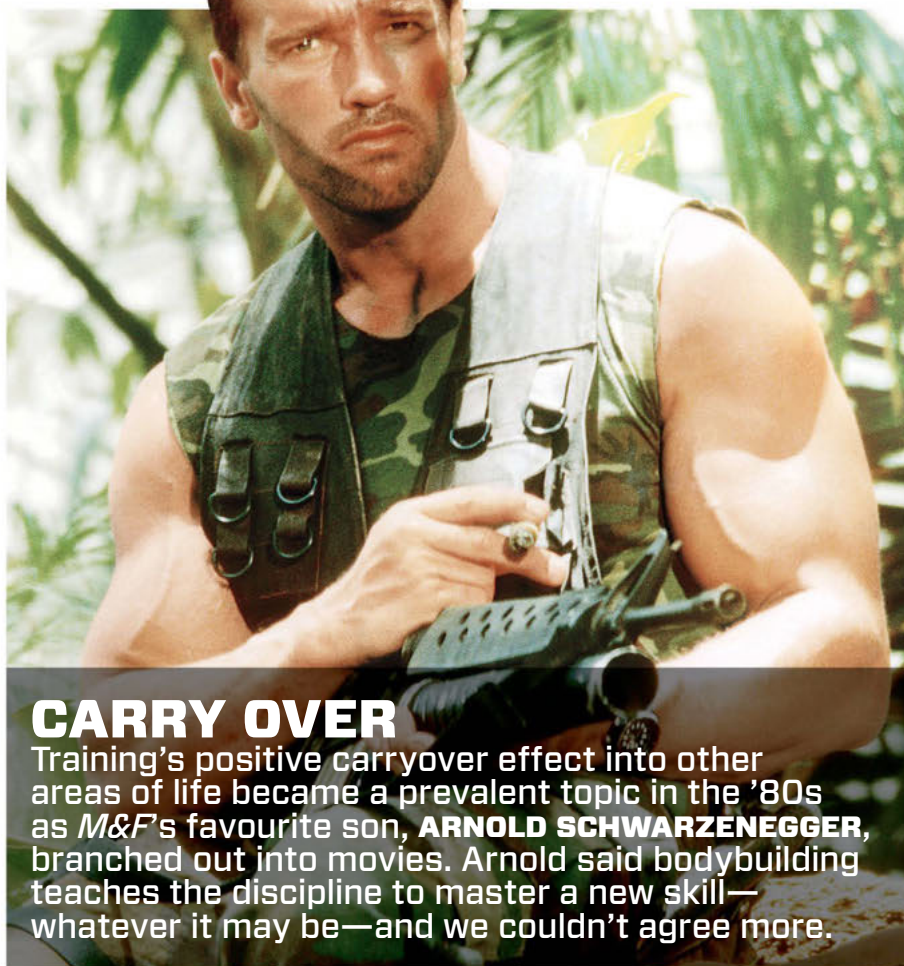
They keep you locked in a movement pattern—and for that reason they will always be secondary to free-weight moves—but machines have a place in your routine, allowing you to continue to safely overload muscles past normal fatigue.

Watch the Fat

A high-fat diet can cause a host of health problems. Whatever your diet, make sure fat is less than 30% of your daily caloric intake.

TAKE PROTEIN SUPPLEMENTS

One gram of protein per half-kilo is hard to get without protein powder. Luckily, we've come a long way since the '80s.



THIS SPREAD: CLOCKWISE FROM TOP LEFT: 20TH CENTURY FOX; EDGAR ARTIGA; MICHAEL HITOSHI/CORBIS; PAVEL VTIJALI; ISTOCKPHOTO (2); COURTESY OF WEIDER HEALTH & FITNESS

CARRY OVER

Training's positive carryover effect into other areas of life became a prevalent topic in the '80s as *M&F*'s favourite son, **ARNOLD SCHWARZENEGGER**, branched out into movies. Arnold said bodybuilding teaches the discipline to master a new skill—whatever it may be—and we couldn't agree more.



"PRIMITIVE" DIETING

Long before the Paleo craze, we recommended "primitive" dieting: unprocessed meat and veggies and no grains. While you don't really need to go Paleo, we still believe the closer to natural, the better.

POSEDOWN

Posing as isometric exercise is actually quite intense and can help bring out definition. It gained prevalence when competitors noticed they were often in better shape after bodybuilding shows.



TRAIN TO MAKE SEX BETTER

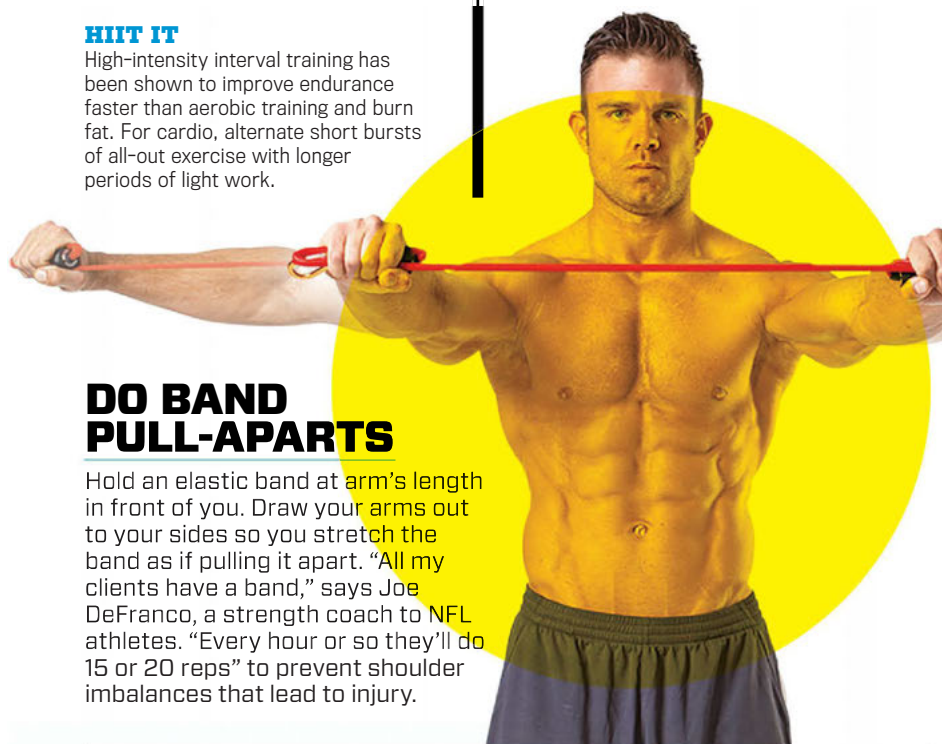
In the '80s we used anecdotal evidence that "women prefer bodybuilders." Today, we know training doesn't just boost confidence but also increases hormone levels as well as blood flow to sex organs.

WISDOM FROM EVERY ERA
2000-PRESENT



HIIT IT

High-intensity interval training has been shown to improve endurance faster than aerobic training and burn fat. For cardio, alternate short bursts of all-out exercise with longer periods of light work.



DO BAND PULL-APARTS

Hold an elastic band at arm's length in front of you. Draw your arms out to your sides so you stretch the band as if pulling it apart. "All my clients have a band," says Joe DeFranco, a strength coach to NFL athletes. "Every hour or so they'll do 15 or 20 reps" to prevent shoulder imbalances that lead to injury.

FAST FOR FAT LOSS

Intermittent fasting, in which you go as long as 16 hours without eating then feast, has been shown to boost growth hormone and promote fat loss.

THE LATEST & GREATEST

Try Tabata

Do 20 seconds of work with 10-second breaks. Do eight rounds for four minutes.

Be Unbalanced

Use uneven weights to strengthen your core. Your abs will have to work harder.

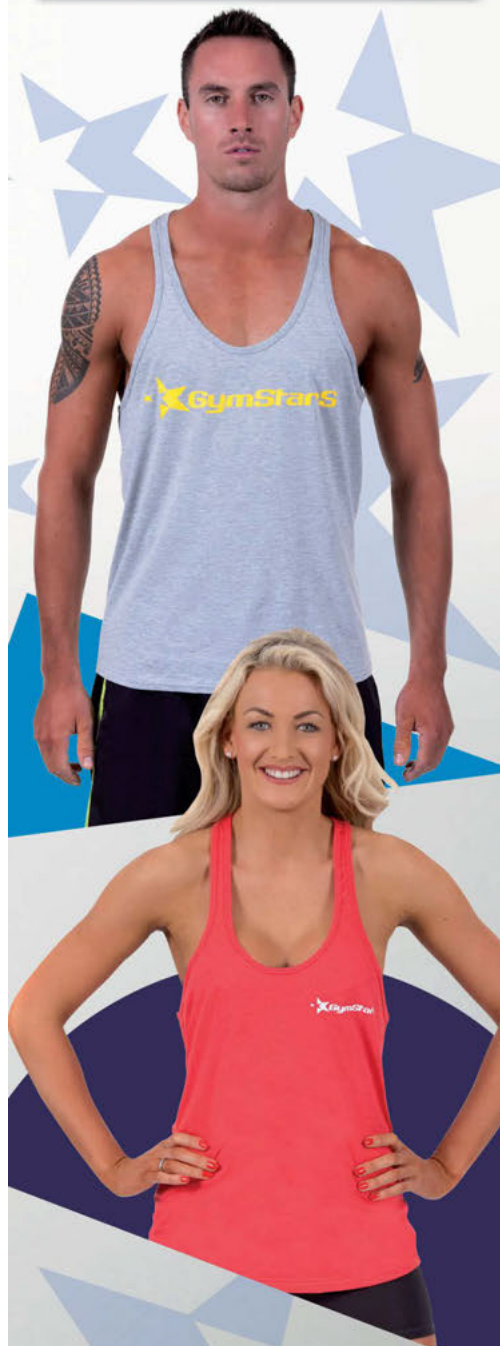
Roll It Out

Use a foam roller to massage away knots, improve flexibility, and speed recovery.

Form Above All

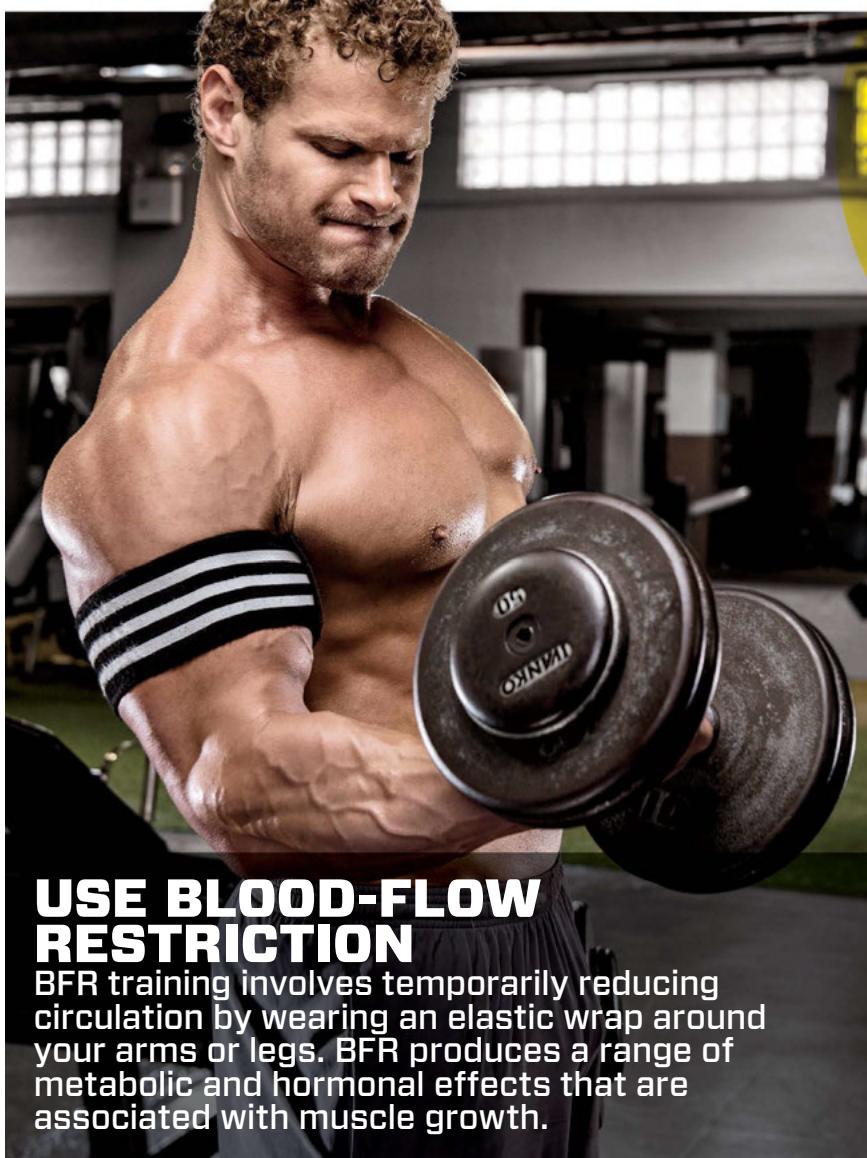
End a set when your form breaks down. You can always add more sets later.

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USE BLOOD-FLOW RESTRICTION

BFR training involves temporarily reducing circulation by wearing an elastic wrap around your arms or legs. BFR produces a range of metabolic and hormonal effects that are associated with muscle growth.



EAT COCONUT OIL

It contains medium-chain triglycerides, which can increase growth hormone levels, burn fat, and boost your metabolism.



BLOW UP WITH LANDMINES

Use a landmine unit. (Or wedge a bar into a corner.) Pressing and squatting with the bar on an arc provides a joint-friendly alternative.

THE LATEST & GREATEST

Prepare Yourself

"Pre-pump-ing" the muscles you're going to use on the main lift helps prevent injury. Dumbbell press before you bench and do leg curls before deadlifts.

On the Casein

Because it digests more slowly than whey protein, casein keeps muscle protein synthesis turned on for longer. Take it before bed to reduce muscle breakdown while you sleep.

Go West

Try the Westside template: Two days a week, train your squat and bench with heavy weights in the one- to five-rep range; another two days, train them for power—lift explosively with 40-60% of your max.

Walk Like a Farmer

It's the ideal "functional" lift, and it's been around forever. Pick up the heaviest dumbbells you can handle and walk as far as you can to build grip, core, trap, and shoulder strength.

Get a Stretch

Finish your workouts with a movement that stretches the target muscles under load to boost growth. Try dumbbell Romanian deadlifts at the end of leg day to finish the hamstrings.

Jump for It

Take a vertical jump test at the beginning of a workout: Jump as high as you can, and repeat twice more. If your best jump isn't 90% of the height it is normally, you're not recovered and need to back off.

Take BCAAs

Branched-chain amino acids activate muscle protein synthesis and can prevent catabolism when taken before training on an empty stomach.



GAIN POWER

Exercises like the box jump and plyo pushup train your body to be more explosive, helping you through sticking points on lifts. Do multiple sets of one to five reps. **M&F**



HAVE A BALL

Using a Swiss ball (the big inflatable ball in your gym) trains your core by providing instability. Rest your hands or feet on it to challenge your balance, or use it to safely increase the range of motion on a situp.

ROW LIKE KROC

Popularised by transgender powerlifter Janae Marie Kroc, the Kroc row is a one-arm dumbbell row—extremely heavy to failure. Kroc once did 13 reps each arm with 141 kilos.



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**CHEF'S
TIP**

Try to score true free-range eggs for this dish, as research shows that they are more nutrient dense.

WINTER WONDERS

These recipes featuring the best and freshest that the winter produce aisle has to offer will make sure you start the year on a nutritional high note.

BY MATTHEW KADEY, M.S., R.D. /// PHOTOGRAPHS BY TRAVIS RATHBONE

BRUSSELS SPROUTS AND EGG HASH

SERVES 2

- 1 tbsp unsalted butter
- 185 g quartered brussels sprouts
- 2 shallots, chopped
- ¼ tsp salt
- 100 g spinach, ends trimmed
- 1 garlic clove, minced
- 2 tsp grated lemon zest
- 2 large eggs
- Black pepper to taste
- 2 tbsp bread crumbs
- 30 g soft goat cheese, crumbled
- 2 tbsp chopped walnuts

1) Heat a medium-size skillet over medium heat. Melt butter then add sprouts, shallots, and salt. Heat until sprouts are tender and slightly browned, 6 to 8 minutes. Stir in spinach, garlic, and lemon zest; heat until spinach is lightly wilted.

2) Create two nests in the skillet for the eggs. Crack eggs into nests, cover skillet, reduce heat to low and cook until egg whites are set and yolks have reached desired consistency, about 10 to 12 minutes for runny yolks.

3) Season with black pepper and scatter on bread crumbs, goat cheese, and walnuts.

THE MACROS

296 CALORIES	16g PROTEIN	19g CARBS	19g FAT
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BUTTERNUT HUMMUS

SERVES 6

- 450 g butternut squash, peeled and diced
- 1 tsp plus 2 tbsp extra-virgin olive oil
- 170 g cooked or canned chickpeas, drained and rinsed
- 1 garlic clove, minced
- Juice of ½ lemon
- 2 tbsp tahini
- 1 tsp smoked paprika
- ½ tsp salt
- ½ tsp cumin powder
- ¼ tsp cinnamon

1) Preheat oven to 200°C/Gas Mark 6. Toss butternut squash with 1 tsp oil and spread out on a baking sheet. Roast until tender, about 30 minutes. Let cool.

2) Place butternut and remaining ingredients in a food processor or blender and blend until smooth.

CHEF'S TIP

Serve this riff on traditional hummus with sliced veggies or whole-grain crackers as a snack. It also makes a killer sandwich spread.

THE MACROS

150 CALORIES	4g PROTEIN	18g CARBS	8g FAT
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PEAR-OAT BREAKFAST SMOOTHIE

SERVES 4

- 4 pears
- 85 g rolled oats
- 1 litre low-fat milk
- 500g plain Greek yogurt
- 4 tbsp almond butter or peanut butter
- 8 tsp pure maple syrup
- 1 tsp vanilla extract
- 1 tsp cinnamon
- 1 tsp ginger powder

1) Slice pears into quarters and remove cores. Spread out on a baking sheet and place in freezer until frozen solid, about 4 hours. Transfer to a resealable plastic bag until ready to use.

2) Preheat oven to 150°C/Gas Mark 2. Spread oats on a rimmed baking sheet and bake until they begin to darken and smell toasted, about 10 minutes, stirring once halfway through cooking time. Be careful not to burn oats.

3) For each smoothie, place one quarter of each ingredient along with 1 frozen pear in a blender and blend until smooth.

CHEF'S TIP

If you have a blender with no muscle, carefully chop the frozen pears into smaller pieces before blending.

THE MACROS

452 CALORIES	24g PROTEIN	64g CARBS	13g FAT
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STEAK TACOS WITH BEET- CARROT SLAW

SERVES 4

- 1 large beetroot, grated
- 1 large carrot, grated
- 2 spring onions, thinly sliced
- 1 tbsp coriander leaves
- 3 tbsp cider vinegar
- $\frac{1}{4}$ tsp salt
- 115 g soured cream
- 4 tsp prepared horseradish
- Juice of 1 lime
- 450 g MuscleFood sirloin steak
- 1 tbsp oil
- 8 corn tortillas, warmed

1) Toss together beet, carrot, spring onions, coriander, cider vinegar, and salt in a bowl. Let rest at least 30 minutes. Stir together soured cream, horseradish, and lime juice.

2) Season steak with salt and pepper. Heat oil in a skillet over medium-high heat. Cook steak for 4 minutes per side, or done to liking. Let rest 5 minutes then thinly slice.

3) Place steak slices on tortillas and top with slaw and soured cream mixture.

THE MACROS

397 CALORIES	27g PROTEIN	28g CARBS	20g FAT
------------------------	-----------------------	---------------------	-------------------



CHEF'S TIP

Allowing the slaw to rest slightly pickles it, resulting in a crunchy and sour taco topping.



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KALE-BEAN SOUP

SERVES 6

- 85 g thick-cut pancetta or bacon, chopped
- 1 yellow onion, chopped
- 150 g mushrooms, sliced
- 2 garlic cloves, chopped
- 1½ tsp dried thyme or dried sage
- ¼ tsp black pepper
- ¼ tsp red chili flakes

1.2 litres low-sodium chicken or vegetable stock

1 bunch kale, roughly chopped
800 g cooked or canned (drained and rinsed) haricot beans

Juice of ½ lemon

60 g grated Parmesan

1) In a large saucepan over medium heat, sauté pancetta or bacon until browned and some fat has rendered out, about 2 minutes. Remove meat from pan and set aside. Add onion and mushrooms to pan;

cook until softened, about 6 minutes. Add garlic, thyme or sage, black pepper and chili flakes; heat 30 seconds.

2) Place stock in pan, bring to a boil, reduce heat, and simmer covered for 10 minutes. Stir in pancetta or bacon, kale and 275 g beans; simmer for 10 minutes. Carefully puree soup in a blender, return to pan and stir in remaining beans and lemon juice. If soup is too thick, stir in additional stock or water.

3) Serve topped with Parmesan and freshly ground black pepper. **M&F**

CHEF'S TIP

Try making this soup a day or two before serving. The flavour only gets better.

THE MACROS

296
CALORIES

17g
PROTEIN

36g
CARBS

11g
FAT





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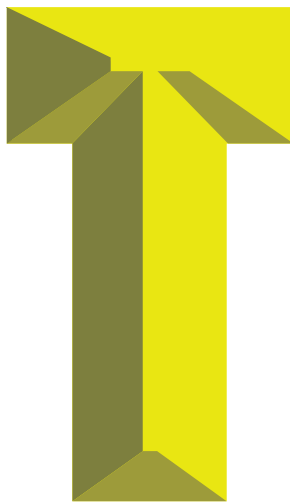


BARBELL BACK SQUAT

Use a low bar position with the bar resting across your traps—not at the base of your neck. As for depth, thighs parallel to the floor is textbook, but going slightly lower (as pictured) is even better.

Extending the length of your sets may be the best and most underutilized way to build slabs of muscle.

BY DAN TRINK, C.S.C.S. /// PHOTOGRAPHS BY EDGAR ARTIGA



THERE ARE LOTS OF

reasons to have an eye on the clock when you're training. Timing your workouts and rest periods will make sure that you aren't taking too long between sets; it will guarantee you finish your training with enough time to get to work; and it will even get you back on track when you are staring too long at the cute girl wearing a yoga outfit in the squat rack.

But there is one aspect of timing

in your workouts that you may be missing out on completely. One that will ensure that you are working your muscles in a way that optimizes growth. A method that has you time out the length of each phase (lowering, lifting, pausing) of each rep and, ultimately, each set in order to promote the greatest amount of muscle gain. This technique is simply called Time Under Tension (TUT) training.

TUT can be achieved in two ways. The first is to set a timer—say, for 40 seconds—and continue to perform an exercise for that amount of time without stopping. A more effective way, and the one this programme will focus on, is to use a tempo prescription for each rep. Why is this more effective? Because it allows you to specifically slow down the eccentric or lowering phase of each rep. And there is much research to back up that slow eccentric phases are an effective way to build mass.

In our programme charts, tempo is laid out as a four-digit number. Each number correlates with a

specific phase of the movement and represents the number of seconds you will spend in this phase. The first number represents the lowering phase (for example, the descent in a squat, lowering yourself in a pullup, or bringing a bench press down to your chest). The second number refers to any pause at the bottom of the movement. The third is the lifting phase in which you are overcoming gravity to lift the bar or your body. The final number is any pause that might occur at the top. So a 4-1-1-0 tempo for a back squat would have you lowering for a four-second count, pausing for one second at the bottom, taking one second to stand up, and then not pausing at the top. Using tempo this way will force each rep to last six seconds ($4+1+1+0 = 6$). If you maintain this tempo for eight reps, then the entire set will take 48 seconds, which falls right in the middle of the ideal time under tension range to build muscle (40 to 60 seconds).

And while it may take a workout or two to get used to using tempo, the benefits are worth it. Here's how to shorten your learning curve.

- **MOST TUT PROGRAMMES** (this one included) focus on a slow lowering phase and a fast lifting phase. So even if you lose count of the seconds for each, remember that you should go down slow and come up fast.
- **YOU ARE GOING** to want to cheat the rep speed and move faster as you fatigue. Don't. Get a training partner to count the tempo for you. Three or four seconds is a long time.
- **BE CONSERVATIVE** with your weight selection. While you may be able to bench 102 for 10 reps normally, the longer lowering phase will make things much harder. Cut 20% off the weight you use. While this may not be great for your ego, controlling the TUT will ultimately give you the size you want.
- **YOU WILL LIKELY** be very sore the first week or two of training this way. Prepare appropriately.

THE PROGRAMME

DIRECTIONS: Perform each workout once per week, resting on two nonconsecutive days. Note that the reps shown in the charts are for use in Week 1 only. In Weeks 2 to 4, use the following guidelines:

● **WEEK 2** - All reps go to 10-12

● **WEEK 3** - All reps go to 6-8

● **WEEK 4** - All reps go to 12-15

You will also need to scale your weights appropriately from week to week. When the number of reps per set goes down, weights should increase over the previous week's. When the number of reps per set goes up, weights will likely have to decrease.

WEEK 1 /// DAY I

EXERCISE	REPS	SETS	TEMPO	REST
A. Barbell Back Squat	8-10	4	4-0-1-0	60 sec.
B1. Dumbbell Stepups	8-10/leg	3	3-0-1-0	60 sec.
B2. Romanian Deadlift	8-10	3	4-0-1-0	60 sec.
C1. Walking Lunge	8-10/leg	3	2-0-1-0	60 sec.
C2. Hanging Knee Raise	8-10	3	4-0-1-0	60 sec.

WEEK 1 /// DAY II

EXERCISE	REPS	SETS	TEMPO	REST
A. Bench Press	8-10	4	3-1-1-0	60 sec.
B1. Single-arm Dumbbell Overhead Press	8-10/side	3	3-0-1-0	60 sec.
B2. Cable Chest Flye	8-10	3	4-0-1-0	60 sec.
C1. Seated Arnold Press	8-10	3	3-0-1-0	60 sec.
C2. Pushups	8-10	3	4-0-1-0	60 sec.

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**SINGLE-ARM
DUMBBELL
OVERHEAD PRESS**

Hold a dumbbell in your right hand and spread your left arm out to the side for balance. Start with the dumbbell at or above your shoulder, then press straight up, keeping your core tight. Do an equal number of reps on both sides.



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DUMBBELL STEPUPS ▲

Hold a dumbbell in each hand and place a bench or box on the floor in front of you that's knee height. Place one foot on the bench and drive through your heel to come up onto the bench. Keep your torso upright.

WEEK 1 /// DAY III

EXERCISE	REPS	SETS	TEMPO	REST
A. Pullup	8-10	4	4-0-1-0	60 sec.
B1. Barbell Bentover Row	8-10	3	3-0-1-0	60 sec.
B2. Cable Straight-arm Pulldown	8-10	3	4-0-1-0	60 sec.
C1. Single-arm DB Row	8-10/side	3	3-0-1-1	60 sec.
C2. Rear Dumbbell Flye	8-10	3	4-0-1-0	60 sec.

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BARBELL BENTOVER ROW

Set a barbell on a rack at hip level and grasp it with both hands at shoulder width. Take the bar out of the rack, step back, and set your feet at shoulder width. Bend your hips back and lower your torso until it's about parallel to the floor. Row the bar to your belly, keeping your lower back in its natural arch.

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WEEK 1 /// DAY IV

EXERCISE	REPS	SETS	TEMPO	REST
A. Trap-bar Deadlift	8-10	4	3-0-1-0	60 sec.
B1. Heel-elevated Goblet Squat	8-10	3	3-2-1-0	60 sec.
B2. Glute-Ham Raise	8-10	3	4-0-1-0	60 sec.
C1. Leg Press	8-10	3	3-1-1-0	60 sec.
C2. Reverse Hyperextension	8-10	3	3-0-1-0	60 sec.

WEEK 1 /// DAY V

EXERCISE	REPS	SETS	TEMPO	REST
A. Barbell Floor Press	8-10	4	3-1-1-0	60 sec.
B1. Close-grip Chinup	8-10	3	3-0-1-0	60 sec.
B2. Decline EZ-bar Skull Crusher	8-10	3	4-0-1-0	60 sec.
C1. Incline DB Curl	8-10	3	3-0-1-0	60 sec.
C2. Triceps Rope Pressdown	8-10	3	3-0-1-0	60 sec.



HEEL-ELEVATED GOBLET SQUAT

Hold a single dumbbell vertically in your hands, palms cupped under the top end of the bell. Stand with your heels on a pair of plates, then perform squats, dropping your hips low and keeping your back flat throughout the move.

DECLINE EZ-BAR SKULL CRUSHER

Hold a loaded EZ-bar and lie on a decline bench, hooking your feet under the foot rest. Keeping your elbows fixed in place throughout the move, bend them to lower the weight to the top of your head, then engage your triceps to extend the weight back to the top.



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◀ REAR DUMBBELL FLYE

Hold a pair of light dumbbells and lie facedown on an incline bench. Keep your elbows extended while you spread your arms away from your body to form a T. Squeeze your rear delts in the peak position.

TRAP-BAR DEADLIFT ▶

Stand in the middle of a loaded trap bar and squat low to grab the handles. Keep your back flat and look straight forward as you push through your heels to stand up.



DAN TRINK, C.S.C.S.,

is a strength coach and personal trainer and the author of the book *High-Intensity 300* from Human Kinetics. Find him on Facebook: [TrinkFitness](#) and on the Web: [trinkfitness.com](#) **M&F**

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***ON SALE FROM
FEBRUARY 11**

SUPPS

THE LATEST IN SUPPLEMENT AND PRODUCT NEWS

Under the Microscope:

Taking a purely scientific look at the best products in the world of sports supplements **BY TIM N. ZIEGENFUSS, PHD, FISSN**

Build and Recover

Build and Recover is a low fat, low sodium, high protein food (powder) consisting of four different protein sources: cross-flow microfiltered whey protein concentrate, milk protein, calcium caseinate, and soya protein. Each 72 gram serving of Build and Recover contains 1107 KJ (261 kcal) of energy and 20.8 grams of protein, while providing <2 grams of fat and 41 grams of carbohydrate (from 3 different sources). Build and Recover also provides 50% of the Recommended Intake for all vitamins and minerals, and was the subject of an extensive 18-month double-blind study at Herriot Watt in Edinburgh, where it helped increase stamina, strength, and aerobic performance. Rounding out the formula is the inclusion of hydroxy beta methylbutyrate (HMB) and Kre-Alkalyn.

► WHEY PROTEIN CONCENTRATE

(WPC) is a fast-acting protein that contains a high concentration of the branched chain amino acids (BCAA) leucine, isoleucine, and valine. BCAAs are revered by athletes for helping reduce muscle soreness and speeding muscle recovery from intense training. When WPC is cold micro-filtered and contains at least 80% protein by weight, it retains very important fractions from milk that other proteins (like whey protein isolate) sometimes leave out. These native fractions (e.g., alpha-lactalbumin, beta-lactoglobulin,



lactoferrin, various immunoglobulins, glycomacropeptide, etc) have immune-enhancing properties and help regulate over 200 different genes within our body. One study that compared WPC to whey protein isolate reported greater improvements in peak power, work capacity and decreased body fat in the WPC group. Other studies have shown improved antioxidant status in subjects ingesting WPC. This doesn't necessarily mean that whey protein isolate is inferior to WPC, but it certainly shows that a high quality WPC has very powerful recovery effects.

Scientists consider WPC a "fast protein" because it is digested rapidly and causes sharp increases in amino acid levels in blood. This is exactly what I recommend during the post-workout period, where a rapid delivery of amino acids to muscle can quickly reverse the catabolic effects of intense training. Many bodybuilders also use WPC first thing in the morning to quickly reverse sleep-induced muscle protein breakdown.

► **DEXTROSE**, also known as d-glucose, is a monosaccharide (simple sugar). It is one of the primary sources of energy in the body, and is used both in aerobic metabolism as well as anaerobic metabolism. In other words, whether you are a triathlete or a weight lifter your body still uses d-glucose to fuel the production of cellular energy. Unlike fats and proteins, glucose is unique because it can be broken down aerobically (with oxygen), as well as anaerobically (without oxygen) to produce energy in the form of ATP (adenosine triphosphate). In addition, glucose molecules can be linked together to form glycogen, the storage form of carbohydrate in the liver and muscles. Liver glycogen is used to help regulate blood sugar levels while muscle glycogen is the primary fuel source during intense exercise. Many endurance athletes, some multiple-sprint sport athletes, and even pre-contest body builders will use a process called "glycogen loading" to store more carbohydrate in their muscles prior to competition. For the

athletes, it provides a boost in performance during the latter stages of match, while for the body builder it provides an accentuation of muscle size and definition. Although it is not technically an "essential nutrient", the body needs dextrose (sugar) for optimal performance. Try to train or compete without it and expect crappy results.

► **GLUTAMINE** is a "conditionally essential" amino acid that makes up about 50% of the total amino acid pools in our body. It plays critical roles as a fuel for intestinal and immune cells, is a precursor to the powerful antioxidant molecule glutathione, stimulates the production citrulline (which has anti-fatigue and nitric oxide producing properties), regulates acid-base balance, acts as a carrier of nitrogen between various tissues, and is a precursor of many other important compounds within the body. This superstar amino acid has been the darling of the supplement industry for decades, and has leagues of devoted and convinced followers despite a clear lack of evidence supporting its anabolic or anti-catabolic effects in healthy humans. What is clear though, is that glutamine is extremely beneficial for gastro-intestinal health, prevention of upper respiratory tract infections, and in anyone who has a low dietary intake. In short, glutamine may or may not help your muscle building efforts, but it certainly won't hurt either. Moreover, there are many reasons to ingest supplemental glutamine, namely to promote cardiovascular/gastro-intestinal health, and to reduce muscle loss during any kind of muscle wasting, trauma, or infection.

► **HMB** is a potent anti-catabolic metabolite of the amino acid leucine that is thought to play a central role in regulating muscle mass by inhibiting protein breakdown. HMB is available in two forms, calcium-HMB and HMB-free acid. While the latter form appears to be much more powerful, there are a few published studies that demonstrate the benefits of calcium-HMB supplementation on lean mass and the acquisition of strength.

Scientists believe that HMB helps stabilize cell membranes and, based on recent evidence in rats, may increase the short-term energy capacity of muscle fibers by increasing ATP and glycogen content. In order to reap these potential benefits, doses of HMB (the calcium salt form) need to be about 2-3 grams per day for approximately 8 weeks. Also, HMB works best when it is taken during intense periods of training. Wimps and those who skip workouts should not expect any noticeable changes in body composition or strength levels.

When taken at appropriate doses during periods of intense resistance training, HMB can magnify changes in lean mass and muscle growth. This is particularly true in previously untrained subjects and/or those who are losing muscle due to the normal aging process (where catabolic processes are accelerated).

► **SOY PROTEIN ISOLATE** is a moderately fast digesting protein that is rich in the essential amino acids and arginine. Arginine is a favorite of many bodybuilders for its effects on nitric oxide production (and enhanced muscle pumps). Soy protein is also rich in the phytonutrient genestein, which may also have nitric oxide boosting qualities, as well as several health-promoting isoflavones and saponins. Several studies have demonstrated the ability of soy protein to increase muscle protein growth, and although it is not as powerful in this regard as whey or milk protein, soy also contains beneficial antioxidants that may improve recovery from intense training. In addition, one study reported that soy protein increased growth hormone levels by 200%. Some bodybuilders and fitness gurus have claimed that soy protein might increase estrogen levels and/or decrease circulating testosterone levels. However, these claims have been largely debunked by recent research.

Although using high doses of soy protein in isolation is usually not recommended, small amounts added to bars and or protein powders can actually improve lean mass and recovery from training.

SCI-MX OMNI MX HARDCORE

OMNI MX HARDCORE is a low fat, high protein food (powder) consisting of four different protein sources: whey protein isolate, whey protein concentrate, milk protein (which contains both whey and casein), and soy. Each 100 gram serving of **SCI-MX OMNI MX HARDCORE** contains 1565 KJ (370 kcal) of energy and 36 grams of protein, a stout 48 grams of carbohydrate, and only 3 grams of fat. This formula boasts “14 active ingredients” including, for example: creatine blend (monohydrate and pyruvate), glycine, arginine, beta alanine, glutamine, and HMB among others. Collectively, the ingredients are designed to increase lean mass and strength, increase workout power, and reduce fatigue.

Protein blends are very popular today with athletes. The theoretical advantages of these protein blends are that different protein sources have different digestion rates (and therefore different [complimentary] effects on stimulating muscle growth and/or slowing muscle protein breakdown) and provide complimentary types of key amino acids that one isolated protein might be suboptimal in (e.g. leucine, glutamine, arginine).

► **WHEY PROTEIN ISOLATE** is a type of protein derived from the water-soluble portion of milk, but unlike milk, WPI has no lactose, cholesterol or fat. WPI is typically at least 90% protein. WPI is a fast-digesting protein that is high in L-cysteine and the branched chain amino acids leucine, isoleucine, and valine. L-cysteine helps regulate blood sugar and may decrease blood vessel inflammation and attenuate exercise-induced oxidative stress. The branched chain amino acids are helpful in reducing muscle soreness and speeding recovery from intense training. There are other good reasons to use whey protein, even if



building massive amounts of muscle isn't one of your goals. These include improved satiety (feeling of fullness), regulation of blood pressure, increased high-density lipoprotein (HDL-cholesterol), and lowering of triglycerides. These effects can be variable however, and depend on the individual's background health status. The bottom line is that scientists know more about whey protein isolate than any other protein on the market. Its muscle building powers are the stuff legends are made of.

► **WHEY PROTEIN CONCENTRATE (WPC)** is a fast-acting protein that contains a high concentration of the branched chain amino acids (BCAA) leucine, isoleucine, and valine. BCAAs are revered by athletes for helping reduce muscle soreness and speeding muscle recovery from intense training. When WPC is cold micro-filtered and contains at least 80% protein by weight, it retains very important fractions from milk that other proteins (like whey protein isolate) sometimes leave out. These native fractions (e.g. alpha-lactalbumin, beta-lactoglobulin, lactoferrin, various immunoglobulins, glycomacropeptide etc) have immune-enhancing proper-

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▶ **MILK PROTEIN (MP)** is protein extracted from cow's milk. Specifically, MP is produced by filtering (concentrating) skim milk, and contains both casein – a “slow burning protein” (80%) and whey – a “fast burning” protein (20%). A fairly recent study in 2012 examined the effects of ingesting 40 g of casein prior to sleep on the rate of muscle protein synthesis. The results revealed that ingesting casein before bed increased muscle protein synthesis by 22%, and therefore represents an important strategy for athletes who are trying to gain lean (muscle) mass during training. Got Milk? You should, because milk is an outstanding source of muscle building proteins and biologically active ingredients.

▶ **BETA ALANINE** is a widely popular amino acid in many types of athletes because it reduces muscle fatigue during intense exercise. When beta alanine is ingested, it combines with another amino acid called histidine to form a potent compound called carnosine. In exercising muscle, carnosine acts as a potent buffer of hydrogen ions that are generated from lactic acid (lactate) production. This is relevant to body builders during sets that last longer than about 60 seconds or when training with short rest periods where excessive lactate (lactic acid) production can reduce the total number of repetitions completed. In theory, beta alanine may also be useful during very low carb diets to offset changes in pH due to ketone production. For best results, beta alanine must be consumed continuously for at least four weeks.

▶ **ARGININE** is a conditionally essential amino acid found in meat, seafood, nuts and soy. Due to its role in nitric oxide (NO) production and as a potential growth hormone secretagogue, arginine has enjoyed a rich history in sports nutrition. In one study, subjects

given 6 g of arginine (along with other vitamins and amino acids) improved their time to exhaustion by 20% compared to the placebo group. Other studies have reported lower levels of ammonia and lactate when various forms of arginine are consumed prior to exercise. Despite these acute benefits, the effects of long term arginine supplementation on muscle growth and the acquisition of strength are quite variable. However, since arginine can be converted to creatine, citrulline, and agmatine (a signaling molecule that enhances blood flow), it is considered to be a very versatile amino acid.

▶ **CREATINE** is the world's best-selling, safest, and most effective anabolic supplement in history. Hundreds of studies have been done in humans that demonstrate its efficacy for building muscle and improving performance. Among its main mechanisms of action, creatine increases the rate of ATP regeneration (which reduces fatigue during intense, repeated exercise bouts), promotes greater secretion of intramuscular IGF-1 concentrations (an intramuscu-

lar growth factor), increases in muscle fiber protein content, and increases several myogenic regulatory factors (i.e. proteins that activate gene expression in muscle). In stark contrast to unsubstantiated reports by athletic trainers and some coaches, no published study has ever linked creatine use to muscle strains, dehydration or kidney/liver problems. Used appropriately, creatine is one of the safest supplements on the market. For best results, take it immediately after a hard training session with a low fat, high carbohydrate/protein meal.

▶ **GLYCINE** is non-essential amino acid the body uses to synthesize collagen, certain enzymes, and to activate the NMDA (N-methyl-D-aspartate) receptor. In some studies, glycine has also been shown to stimulate growth hormone (GH) secretion. For example, one study reported a 3 to 4-fold increase in GH when subjects were given a 6.75 g dose of glycine; an effect that lasted for three hours. Other studies that have shown increases in GH due to glycine administration have used large (4-12 gram), intravenous doses. Nonetheless, it is generally accepted that glycine does indeed stimulate the pituitary gland in the brain to secrete GH. In addition, a recent study that gave subjects glycine and arginine in combination reported significant increases in muscle torque and work sustained during intense anaerobic exercise. Finally, when given an hour before bed, a 3-gram dose of glycine can improve sleep quality. Although research is quite mixed on oral supplementation with glycine, it appears to be useful in certain conditions for promoting GH secretion, improving exercise performance (when co-ingested with other amino acids) and activating the NMDA receptor. In the latter scenario, some scientists have speculated that glycine may improve the effectiveness of D-aspartic acid supplementation, but this remains to be proven.



Super Bench?

INSTEAD OF TRAINING AT A GYM, thousands of people like you make the switch to train at home. Many head to Valley Fitness to find the foundation of many a home gym; a weight bench. The Super Bench.

Ironmaster's **Super Bench** was designed in the USA to provide a versatile, solid and affordable FID bench for home customers who wanted light commercial quality that will last. They remark that the bench is not only strong, but it's more adjustable than any other weight bench out there.

The **Super Bench** is rated to 450kg, has 11 lock out angles and an increasing list of attachments are available; from a Dip Bar to a Chin-up attachment and a Preacher Curl Attachment to a Lat Cable Tower.

Valley Fitness claim to have found that most **Super Bench** owners add attachments to their home gym every couple of months, with founder James

Daniels saying "We hear from many customers that building their own gym allowed them to train more regularly. Adding a new product to their gym kept them interested, motivated and also impressed their friends. This could be why over a third of our sales are from repeat customers and referrals." Valley Fitness also offers Ironmaster's Quick-Lock adjustable dumbbells and Kettlebells, the IM1500 half rack and the IM2000 smith type machine.

Grab a 10% discount with the code MF10 at www.valleyfitness.co.uk for one month only.

OTHER ATTACHMENTS INCLUDE: Leg Attachment, Hypercore Hyper Extension Attachment, Crunch Attachment and Spotting Stand.



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■ **TETRADECYLTHIOACETIC ACID**, an omega 3 fatty acid that actually helps the body use stored fat as energy. It does this by releasing fat into the blood making it available to the liver and for the body to use.

■ **VITAFIVE®** is a unique trade marked blend of 5 B-Vitamins formulated to exacting standards to maximise the effectiveness of TNT Fat Blaster. It has been proven to

promote the metabolism of proteins, sugars, and other macronutrients which could enhance weight loss as well as physically reducing feelings of tiredness, lethargy and fatigue. A proven energy booster!

■ **STEAROYL VANILLYLAMIDE**, shown to increase energy expenditure and to target the brown adipose tissue by activating adrenaline and noradrenaline receptors making it an excellent addition to TNT Fat Blaster.

TNT Fat Blaster is priced at only £44.99 for 120 Explosive Charges. This product can be bought directly from www.tntfatburner.co.uk or by calling 0800 634 5898

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COMPETE® Energy Bites come in 3 delicious flavours: chocolate, mocha and lemon. Buy a small pack (contains 2 bites) for £1.99 or a value pack (contains 6 bites) for £4.99. www.competeenergy.co.uk



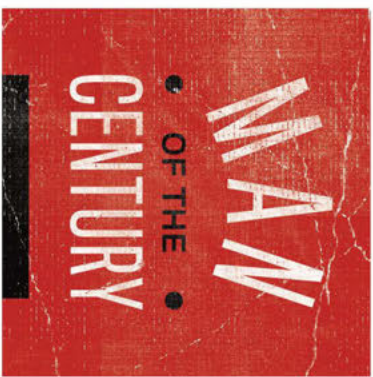
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■ Dwayne Johnson



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